Running head: ABUSE PREVENTION PROGRAM FOR CHILDREN

Teaching Sexual Abuse Prevention Skills to Two Children with Intellectual Disabilities through Game Play

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Abstract

The current study examined the effectiveness of a sexual abuse prevention program developed locally for children with intellectual disabilities. The program package included a board game with informational storybooks that were designed to be used in a family setting. Additionally, this research sought to determine if parents could be effective at presenting the sexual abuse prevention materials to their children. A multiple baseline across behaviours design was used with two participants with a diagnosis of autism. Through role play scenarios as well as verbal knowledge tests, it was determined that the program was effective at teaching the participants the skills presented for self protection. It was also determined that the skills learned were generalized to scenarios that were untrained during the game play. Finally, with additional supports, it was determined that parents were able to effectively teach their children the required skills.

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Teaching Sexual Abuse Prevention Skills to Two Children with Intellectual Disabilities through Game Play

The focus of the present study was to develop, implement and evaluate a family-based, parent taught sexual abuse prevention program for children with intellectual disabilities. It is widely known that sexual abuse of children is an issue that parents and caregivers alike want to prevent. Yet, there are many aspects to consider in the development and implementation of any sexual abuse prevention program. When children with intellectual disabilities are the target population, additional considerations need to be made. A major consideration of any training program needs to be the degree to which the skills taught can be maintained after training and generalized to new environments. With generalization and maintenance of skills being of highest priority, it is imperative that programs examine both of these issues during program development as well as during effectiveness testing.

What is Sexual Abuse?

According to the Government of Ontario (2007), sexual abuse of a child is "any kind of sexual contact forced on a child or young person by someone who is significantly older, usually an adult. Sexual abuse might involve sexual touching of a child, or inviting a child to touch an adult in a sexual way". This definition was used in the present research.

Prevalence of Abuse and Disability

Exact numbers with regards to the prevalence of sexual abuse among children with disabilities are difficult to determine. Studies that have examined prevalence rates of the sexual abuse of children in general have varied in their numbers for a multitude of reasons, which have included definitional differences as well as various methods of data collection (Sobsey, 1994). In addition, the challenges of determining prevalence rates are compounded when disability is

added into the mix, as reporting becomes more difficult and there may be a tendency to not believe the reports of children with disabilities as readily as children without disabilities (Westcott & Jones, 1999). A third issue with prevalence rates lies in the actual sampling of this population as children with disabilities live in a wide variety of settings that may or may not be accessible to researchers and require a varied amount of care and support to actually be involved in the sampling (Senn, 1988). Specifically, this means that researchers may not have access to group homes or institutions where large numbers of people with disabilities live or have lived when sampling the general population.

Despite these issues in determining prevalence rates, there is a general agreement that children with disabilities are at a higher risk for sexual abuse than typically developing children (Sobsey, 1994; Sullivan & Knutson, 2000; Westcott & Jones, 1999). Estimates indicate that between 39% and 68% of girls with disabilities are sexually abused and for boys the range is between 16% and 30% (Sobsey, 1994). Other estimates from a survey of studies indicate that between 4% and 83% of both male and female children with disabilities have been sexually abused during their childhood (Westcott & Jones, 1999). When examined against typically developing peers, further results indicate that children with disabilities are 3.4 times more likely to be abused than typically developing children (Sullivan & Knutson, 2000). Clearly with such a large portion of children with disabilities being sexually abused it is also important to understand why abuse occurs more readily within this population.

Disability as a Risk Factor

It is clear from the prevalence rates that children with disabilities are at a greater risk for sexual abuse than children without disabilities. However, what is not known is the exact reason for this relationship. Theories on how disability acts as a risk factor can be divided into the direct

effects of disability and the indirect effects involving cultural and societal belief systems (Sobsey, 1994). Direct effects involve children with disabilities having a limited ability to fend off offenders as well as the increased contact with caregivers due to a need for more direct care (Sobsey, 1994). Dependency on others may have a significant impact on the likelihood of abuse for children with disabilities. It is estimated that there is a 78% risk increase for children and adults with disabilities simply due to the number of care providers they come in contact with in comparison to children and adults without disabilities (Sobsey & Doe, 1991).

Theories involving indirect relationships between disability and abuse are much more widespread. One possible explanation provided by Levy and Packman (2004), is that children with disabilities are not given as many choices in their daily lives as children without disabilities, making it much more difficult for them to go against a request that a potential abuser might place on the child in a sexual abuse context. It is also suggested that the social isolation that children with disabilities may have, due to a limited number of friends, may make them more likely to try to please those around them, thereby placing them in a vulnerable position (Levy & Packman, 2004; Mazzucchelli, 2001).

Finkelhor (1984) developed a four factor model to explain the connection between abuse and disability. This model proposes four factors that when combined produce a situation in which abuse is likely to occur. The factors include: an adult that is predisposed to abuse, internal inhibitors for that adult must be reduced, external inhibitors must also be limited and the child's own ability to refrain must be defused. Societal views about children with disabilities can play a large part in diminishing internal inhibitors. When society sees disability as something that is to be looked down upon or viewed as less valued than the rest of society, it makes it easier for a perpetrator to remove or reduce his/her inhibitions. Secondly, external inhibitors may be

significantly reduced when discussing children with disabilities because of the amount of care and contact with adults that children require, thus leaving them open to more chances for abuse to occur. While the first three parts of the theory are difficult if not impossible to address in prevention programs aimed at children, the fourth is something that can be addressed specifically. It is entirely possible to target and increase the ability of children to stand up and protect themselves. In addition, the amount of knowledge about sexuality and abuse with which people with disabilities have been provided in general is less than that provided to the typical population making this an area that sexual abuse prevention programs can easily target and change (McCabe, Cummins, & Reid, 1994).

Finkelhor has also developed a typical profile of a child who is at higher risk for being sexually abused than other children. Not all aspects of the profile apply to all individuals but the combination of a few can lead to a child in possible danger of abuse. Some of these include a child who is deprived emotionally, lacks social contact with others, knows and likes the adult who is the potential abuser and is also vulnerable when it comes to accepting gifts and offerings from that adult. In addition, the child who is likely to be abused is a child who feels helpless and powerless and may not know what is taking place. This child may also be sexually repressed and susceptible to coercion.

A final possible explanation for the relationship between abuse and disability may be the lack of education that children with disabilities receive in comparison to typically developing children. If children with disabilities are not taught basic sexual education or self protection skills, how will they know what to do if the situation arises or how to describe what happened after abuse has occurred in order to prevent it from happening again in the future (Levy & Packman, 2004)?

Effects of Sexual Abuse on Children

If a child does experience sexual abuse, the effects can be long lasting and can be displayed in a wide variety of typographies. Physically, sexual abuse can lead to a range of physical injuries from force used by the offender as well as pregnancy for girls, depending on the physical maturity of the victim. Pregnancy is an uncommon effect but there is always the chance that it still may occur (Sobsey, 1994). In addition, children may contract sexually transmitted infections (STIs) which, if left untreated, can be potentially fatal (Sobsey, 1994). While many of the physical effects are caused directly by the offender and his/her mistreatment of the victim, it is also possible that child victims may have physical symptoms that are psychosomatic in nature. These can include stomach aches, headaches and sleep disturbances, to name a few (Sobsey, 1994). Children who have experienced sexual abuse may also engage in inappropriate displays of sexuality such as exposing genitals or open masturbation (Senn, 1988).

While physical effects can be devastating and painful when they occur, most generally heal with time. Psychological effects however can be much longer lasting and more difficult to overcome. Some of these have been described by Senn (1988). They include traumatic sexualisation which may involve an unhealthy understanding of sexuality and dysfunctional knowledge about sexual intimacy, feelings of betrayal when the abuser is someone known to the child, (which is the case with many children with disabilities who have been abused), feelings of powerlessness as well as stigmatization.

The psychological effects of sexual abuse can show themselves in many forms. Emotional displays are a very common effect and can include extreme emotions such as overt anger or deep sadness sometimes leading to depression. Other symptoms involve the child's loss of trust for those around them, loss of self control and/or rational/irrational fears (Sobsey 1994).

These effects can also develop into more severe issues including post traumatic stress disorder or self mutilation requiring more intensive treatment of symptoms (Senn, 1988; Sobsey, 1994).

The negative psychological effects can also last into adulthood possibly resulting in revictimization, depression, self destruction as well as anxiety (Senn, 1988). Other effects include the use of drugs or alcohol, prostitution and possibly engaging in sexual abuse with other children, this time as the offender (Sobsey, 1994). The effects from sexual abuse can vary widely. Not every child will experience all or even most of these effects. However even just one can have a significant impact on that child's life as he/she grows into adulthood. Most of these effects have been described about typically developing children who have experienced abuse. With regards to children with intellectual disabilities, it is suggested that psychological trauma caused by abuse might be more likely to occur , meaning that for this population the need for prevention is even more imperative (Varley, 1984).

Components of Unsuccessful Programs

When we examine programs that have been used in the past, it is easy to see, in hindsight, what parts of these programs were ineffective at prevention and may have even added to the problem by increasing the risk for sexual abuse. A few of these issues have been outlined by Hindman (1993). They include the scare tactic approach where fearful parents instil that same fear in their children resulting in a fearful child who does not want to talk to their parents about issues of sexuality. Lecture style teaching also does not allow for retention of material and can many times lead to conversations well above the child's level of understanding. Another ineffective component of sexual abuse prevention programs is when parents do not provide an explanation of why children should listen to their advice and only provide dictator-like instructions.

An important turning point in prevention strategies was moving away from the use of 'good' 'bad' terminology with regards to people, types of touches and relationships with others. Programs that involve the use of good and bad to discriminate between types of touch can cause confusion as touches that adults may classify as bad may in fact feel good to the victim. In addition, this classification does not allow room for movement between categories with issues such as confusing touches. Along with the topic of touching comes the use of the word 'never' in the context of teaching that the child should never let someone touch their private areas. For children with disabilities, there may be a need for additional support of going to the washroom and activities of daily living which require a support person to routinely touch a child in their private areas, albeit in a different way. Most of the time this is not an instance of sexual abuse but if a child is told 'never' to let someone touch you in this area, it only causes confusion for the child. All of these terms leave no room for movement which is needed due to the complex nature of sexuality and sexual abuse (Hindman, 1993).

Other ineffective programs include components that focus strictly on stranger danger in that they teach children to be weary of strangers. However many perpetrators of sexual abuse are already known to the victim before the abuse occurs and they develop a relationship with that child slowly (Miltenberger & Thiesse-Duffy, 1988). A final important piece that is missed by many sexual abuse prevention programs is that after a program has been implemented it is important to continue to teach and readdress issues. Once is not enough as children grow older and issues pertaining to sexuality and sexual abuse change and evolve (Hindman, 1993).

Components of Successful Programs

There appears to be consensus in the reviewed literature regarding the types of programs that are ineffective in providing the education needed to develop self protection skills in children.

There is however, less information to direct research concerning the components that should be included in sexual abuse prevention programs. The information that is available will be discussed here. The successful programs include a variety of components which vary greatly between programs. Component analyses have not been conducted to definitively answer the questions of what should be included, however many researchers have discussed the rational for included components. Additionally there is significant overlap of components that are included between programs. At the individual level, one overlapping goal of many programs is to empower individuals by providing them with the tools needed to protect themselves from abuse. Empowerment can be obtained through knowledge and education leading to the following five components that researchers suggest should be included in sexual abuse prevention programs.

Personal safety skills training. Personal safety skills training involves teaching children the skills needed to recognize and avoid dangerous situations as well as to escape if they find themselves in one of those dangerous situations. What is recommended as a minimum requirement for personal safety skills training is to recognize a dangerous situation, make a verbal response such as saying 'no', leave the situation and to tell an adult about the incident. This has commonly been described as the No Go Tell method (Conte, Rosen, & Saperstein, 1986; Levy & Packman, 2004).

In some programs, saying no, leaving the situation and telling someone about the potentially abusive situations are the sole features of the program other than teaching how to recognize these situations (Lumley et al., 1998; Miltenberger et al., 1999). This aspect of many programs teaches children and adults how to avoid strangers and recognize dangerous situations where abuse of many types, including assault, might occur (Sobsey, 1994). This training is especially helpful when attempting to prevent abuse that is committed by strangers; however,

some statistics suggest that only about 10% of abuse involves a person unknown to the victim (Sobsey, 1994).

More intensive personal safety skill programs also include discussions on how to assert individual rights, how to find help, as well as how to escape suspicious situations (Sobsey, 1994). It is also recommended that individualization of personal safety skills programs occur based on the abilities of the individual involved in the program. Some of the criteria for individualization include gender, age, levels of independence, areas of vulnerability as well as personal history of previous victimization, to name a few (Sobsey, 1994).

Touch discrimination. Touch discrimination may be one of the most difficult concepts to convey in sexual abuse prevention program for children, especially with children with disabilities. Touch discrimination refers to teaching the difference between when it is appropriate and when it is not appropriate to touch someone and in what ways. It is imperative that children learn that a touch given by a caregiver may be fine yet the same touch by someone else is not appropriate. Children with disabilities may require more care and support for personal hygiene and dressing than other children and thus may have more opportunities to confuse appropriate and inappropriate touches (Roeher, 1989). Part of the issue lies in the use of the dichotomy of the terms good and bad touch. While adults may be able to discriminate between what is good and bad, these terms can be confusing for children as a 'bad' touch may in fact feel 'good' to the child. Other confusion lies in the fact that a good touch may be 'good' with one person but 'bad' with another depending on that person's role and relationship to the child (Blumberg, Chadwick, Fogarty, Speth, & Chadwick, 1991). For example, a touch that occurs during a doctor's visit may not be abuse however the same touch performed by a caregiver may be abuse. Many victims have reported that there was also a slow progression towards sexual touch by perpetrators that

contributes to the confusion of what types of touch cross the boundaries (Conte, & Fogarty, 1990)

The use of multiple exemplars, as examined by Blumberg et al. (1991), is one method of increasing effectiveness of teaching touch discrimination. This is logical as it is one of the established methods of increasing generalization (Stokes & Baer, 1977). Blumberg et al. examined two sexual abuse prevention programs to determine which features produced the best results in terms of touch discrimination in a group of typically developing primary school children. The results indicated that the program that included examples and discussions about different types of touch was more successful in teaching discrimination. During the discussion children were asked questions such as "Is that taking good care of you?" and "Did you need help or ask for it?" with regards to touching situations. The authors also felt that an important part of the program was that the more successful programs used explicit language and clear definitions about the concepts they were discussing which will be discussed further in the next section (Blumberg et al., 1990).

Language. In their report on sexual abuse, the Roeher Institute (1989) determined that an important characteristic of any sexual abuse program is that it uses appropriate language. The language that is used should be clear and straightforward so that children can use the terminology to talk and ask questions about sexual abuse. As well, children should be taught the appropriate names of body parts so that they can discuss them and can the appropriate terminology when needed. Knowing the appropriate names for body parts also falls under the category of sexual education.

Sexual education. Sexual education is an imperative part of any prevention program. Children need to be able to understand how their own bodies work and what the parts of their

bodies are. This knowledge provides children with tools to be better able to discuss sexual abuse should it occur (Senn, 1988). Sexual education prior to sexual abuse prevention is also imperative to ensure that sexual abuse prevention programs do not lead to fear from touch and of the body or confusion about relationships and sexuality in general (Senn, 1988).

Sobsey (1994) explained four essential reasons why sexual education is imperative to prevention programs. One of the main reasons is that sexual education provides the basic knowledge and understanding to recognize what is abuse and what is not. Secondly, individuals should learn what appropriate relationships look like so that they are able to discern good relationships from abusive ones. Thirdly, if people do not learn about sexuality in a healthy manner they may learn inappropriate actions and gain their socio-sexual knowledge from abusive situations. Finally, sexual education provides the ground work for adults with disabilities to engage in healthy relationships resulting in less social isolation which is a risk factor for sexual abuse. This also gives the individuals the opportunity to make choices with regards to their sexuality (Hingsburger, 1994).

Sexual education should include explicit discussions and language suitable to the individual's abilities. The content of sexual education should include topics such as public versus private, anatomy, puberty, masturbation, personal care, contraception, pregnancy, parenthood, homosexuality, STIs and other topics of interest to the students (Sobsey, 1994). There are many books and resources available that provide direction on how to teach sexual education to people with intellectual disabilities (Champagne, & Walker-Hirsch, 1986; Hindman, 1993; Kempton, 1987; Roeher, 1989).

Topics of discussion. Many programs expand on the components listed above by including other important topics of discussion that vary from program to program. For example,

some programs include a discussion about who is safe to tell about abuse and who is included in the social support system (Conte, Rosen, & Saperstein, 1986). Research on the impact of each individual component is lacking in the sexual abuse literature, however there are analyses that examine what the majority of programs include when teaching sexual abuse prevention skills. According to Conte et al., the topics of discussion that most programs include are: body ownership, secrets and what secrets should and should not be kept, acting on your intuition and trusting your instincts as well as support systems and who the child can talk to about sensitive issues. Most programs also include a discussion pertaining to teaching children that if sexual abuse does occur, it is not the child's fault.

Teaching Strategies

Behavioural skills training. Few studies have identified the best teaching methods to produce ideal results in skill and knowledge gains, as well as generalization of skills. Only a small amount of research has shown positive effects. One method, behavioural skills training, has undergone considerable examination and has demonstrated some success in increasing skills and the generalization of those skills outside the learning environment. Behavioural skills training involves providing the learner with specific instructions, modeling the appropriate behaviours, rehearsing the skills that have been taught and providing the learner with feedback on their performance (Miltenberger, Thiesse-Duffy, Suda, Kozak, & Bruellman, 1990).

The instructional component of behavioural skills training includes providing clear and specific instructions about the exact behaviour that the learner is expected to perform. Instructions should follow an Antecedent Behaviour Consequence (ABC) format. First, they provide information about the antecedent conditions to the behaviour. Second, they describe exactly what the behaviour should look like. Finally, they teach the consequence that will result

from performing the correct behaviour (Miltenberger, 2004). Modeling is used in conjunction with direct instruction to demonstrate the correct behaviour. The model can be either live or symbolic such as in a movie or audiotape. The modeling component requires that the learner has imitation skills as it relies on the learner to attend to and imitate the model performing the correct behaviours (Miltenberger, 2004).

The rehearsal and feedback components also occur in conjunction with one another. During rehearsal the learner has the opportunity to practice the required behaviours. This is an integral part of behavioural skills training because it is only through rehearsal that the teacher can be sure the learner has acquired the target skills. While rehearsing, the learner has the opportunity to experience the consequence for performing the behaviour. This is an important factor with regards to sexual abuse prevention skills as there may be few real life opportunities to practice the skills that are being taught or to experience the reinforcement for performing the behaviour correctly. Increasing the number of opportunities that learners experience reinforcement for correct performance will increase the likelihood the behaviour will occur in the future (Cooper, Heron, & Heward, 2007). Rehearsal also creates an opportunity for feedback to be given to learners on their performance. The feedback component includes positive reinforcement for correct performance, as well as correction for skills that are still being learned. When feedback is provided it is important to be descriptive as well as to continuously provide corrective feedback unless the performance was perfect. Additionally, the instructor should ensure praise and reinforcement are also being provided for the same performance on aspects that were performed correctly (Miltenberger, 1994).

The research on the effectiveness of behavioural skills training programs is favourable. In a meta-analysis of 27 sexual abuse prevention programs for children, role play and active

participation were found to be a moderator variable when determining effectiveness. Results indicated that the more active the children were in the program the better the results in terms of knowledge and skills gained (Davis & Gidycz, 2000). An additional review of the literature conducted in 2005 by Bruder and Kroese determined that although different types of programs were able to teach individuals with disabilities the knowledge about sexual abuse, many had difficulty with application and generalization. They recommended that the programs that were most effective used the principles involved in behavioural skills training. Miltenberger and Thiesse-Duffy (1988) compared the use of a book based sexual abuse prevention program for children and found that when behavioural skills training was added to the use of the book, all children acquired the criterion level of safety skills.

In general, research has shown that when programs include the four main components of behavioural skills training when teaching a wide range of populations personal safety skills, the results are favourable. The wide range of populations includes adults with disabilities, children with disabilities as well as typically developing children (Mazzucchelli, 2001; Miltenberger & Thiesse-Duffy, 1988; Lumley, Miltenberger, Long, Rapp, & Roberts, 1998; Miltenberger et al., 1999; Lee & Tang, 1998).

Other methods. Besides behavioural skills training, very few other teaching methods have been evaluated empirically, however, recommendations do exist based on reviews of literature and current practices with typically developing children (Sobsey, 1994). Individualization of sexual abuse prevention program allows for a wider range of children to be reached by that program. This calls specifically for ensuring that there is room for individualization within the program plan. As well, using multiple means of presenting the material has been used in many programs such as the use of puppets, videos or books (Davis & Gidycz, 2000; Miltenberger &

Thiesse-Duffy, 1988). Finally, any teaching method that can incorporate as many generalization strategies as possible will have a better long term effect on the skills learned by the participants (Stokes & Baer, 1977). The issue of generalization will be further examined in the following section.

Generalization. Generalization is an imperative issue that needs to be considered in sexual abuse prevention programs. Knowledge of protection skills is only helpful if it can be applied effectively in the actual event of sexual abuse. Stokes and Baer (1977) have provided nine methods of promoting generalization. Research has shown that the more technologies for generalization that are included in a program, the more likely it is that generalization will occur (Griffiths, Feldman & Tough, 1997; Miltenberger, 1994). Griffith et al., (1997) compared two similar game social skills programs. The first program included three generalization strategies while the second group included an additional four. At the completion of the program, the results indicated that the group with the most generalization strategies included in the program was better able to generalize the skills they had learned.

With regards to behavioural skills training, Miltenberger (1994) has provided suggestions as to how to improve generalization of skills. The first of these is to provide multiple examples of situations that can occur in the modeling and rehearsal phases. This would fall under the category of train multiple exemplars that Stokes and Baer (1977) suggest as a technology for supporting generalization. Miltenberger (1994) also suggests including real life situations into the role play which would introduce natural maintaining contingencies to the skills learned (Stokes & Baer, 1977). In addition to these technologies supported by Miltenberger (1994), sexual abuse prevention programs should also include, programming common stimuli as well as mediating generalization (Stokes & Baer, 1977). These technologies should be effectively

implemented into sexual abuse prevention programs if the program has a focus on effective generalization techniques.

Current Literature

Prevention programs for people with intellectual disabilities. Currently, sexual abuse prevention programs that are available directly for individuals with disabilities and have been empirically researched have generally focused on adults. In a search for evaluations of sexual abuse prevention programs for people with disabilities, six studies were identified. Of these six programs only one focused on a younger population, that being girls aged 11-15 years (Lee & Tang, 1998). The other programs that were evaluated involved participants ranging in age from 21 to 57 years (Egemo-Helm et al., 2007; Khemka, 2000; Lee & Tang, 1998; Lumley et al., 1998; Mazzucchelli, 2001; Miltenberger et al., 1999). These programs were very similar in that they all taught names for body parts and were based on the no-go-tell format of what to do when sexual abuse is about to occur (Egemo-Helm et al., 2007; Khemka, 2000; Lee & Tang, 1998; Lumley et al., 1998; Mazzucchelli, 2001; Miltenberger et al., 1999). Three programs incorporated a training element focused on identifying different types of relationships and how these relationships effect the way touch can be interpreted (Lee & Tang, 1998; Lumley et al., 1998; Miltenberger et al., 1999).

The actual topics of each of these programs were fairly similar as were the teaching methods used. Behavioural skills training techniques were used in the majority of the programs examined (Egemo-Helm et al., 2007; Lee & Tang, 1998; Lumley et al., 1998; Miltenberger et al., 1999). A classroom style was used in the final two studies in which multimedia, activities and role play situations were used to present the materials to the participants (Khemka, 2000; Mazzucchelli, 2001).

These evaluations included a variety of effectiveness measures including role play (Egemo-Helm et al., 2007; Lumley et al., 1998; Miltenberger et al., 1999), verbal report (Egemo-Helm et al., 2007; Khemka, 2000; Lee & Tang, 1998; Lumley et al., 1998; Mazzucchelli, 2001; Miltenberger et al., 1999) and reports based on videotaped scenarios (Khemka, 2000). Most of these measures were tested pre and post training (Khemka, 2000; Lee & Tang, 1998; Mazzucchelli, 2001; Miltenberger et al., 1999) and some were evaluated through a multiple baseline design (Egemo-Helm et al., 2007; Lumley et al., 1998).

All six programs reviewed here showed an increase in knowledge and skills after the training had occurred. Generalization and maintenance of these skills however were either not examined or showed less than favourable results. Maintenance of skills was not examined in two of the studies (Khemka, 2000; Miltenberger, et al., 1999). Generalization was not considered in three of the studies (Khemka, 2000; Lee & Tang 1998; Mazzucchelli, 2001). Egemo-Helm et al., (2007) measured maintenance of skills by providing a follow-up test using role play scenarios and verbal reports two months after completion of the training, however only two of the five participants had maintained their skills. The skills were also tested in a novel environment to assess generalization and 3 of the 5 were able to show generalization of skills. Lee and Tang (1998) provided data on maintenance of skills but their results indicated that skills of touch discrimination were declining at follow-up two months later. Mazzucchelli (2001) showed limited skill maintenance at five week post training follow-up. Miltenberger et al., (1999) showed that generalization of skills did not occur during in situ assessment and skills were only seen during testing in the home of the participant. Finally, Lumley et al., (1998) examined both the issues of generalization and maintenance but found with regards to maintenance that the skills learned and demonstrated through verbal report and in situ testing diminished at one month

post training follow up, however role play skills were maintained. Complete generalization to novel settings was not found however three of the participants showed improvement in the new settings compared to baseline levels.

Clearly the issues of generalization and maintenance need to be explicitly considered in the development of prevention programs and there is also a need for further examination of both factors in any further program evaluations.

Prevention programs for children. The sexual abuse prevention programs that are currently available have shown some positive effects when used with typically developing children. Many programs, when evaluated, demonstrated knowledge gains from pre-test to post-test as well as increases in behavioural skills in role play situations (Miltenberger & Thiesse-Duffy, 1988; Telljohann, Everett, & Price, 1997; Harvey, Forehand, Brown, & Holmes, 1988). There is also evidence that these knowledge skills can be maintained in follow-up evaluation as well (Harvey et al., 1988; Miltenberger & Thiesse-Duffy, 1988).

The issue with many of the program evaluations for typically developing children is that they usually only test knowledge gained from the intervention. While some programs evaluate skills gained, generalization of both skills and knowledge are rarely examined (Miltenberger & Thiesse-Duffy, 1988; Telljohann et al., 1997; Harvey et al., 1988). It is important to know that children as young as four and five can learn and retain skills that can help protect them from abusive situations (Miltenberger & Thiesse-Duffy, 1988; Harvey et al., 1988). The younger children are when they are involved in a sexual abuse prevention program and can be taught these skills the more likely that the program will have been provided before a potential instance of abuse can occur (Miltenberger & Thiesse-Duffy, 1988). Here lies the need for earl intervention.

Gaps in Research

From the literature that has been examined in this review there is an obvious lack of research examining the effectiveness of sexual abuse prevention programs specifically for children with disabilities. For the few programs that are available for children with disabilities, there is limited research into their effectiveness and even less research measuring generalization. There are researched programs for adults with disabilities but the research on these programs is lacking in the area of detailed examination of generalization and skill maintenance (Khemka, 2000; Lee & Tang 1998; Mazzucchelli, 2001; Miltenberger, et al., 1999). In addition, there are programs that have been researched regarding sexual abuse prevention for typically developing children but these have not been widely examined for their use with children with disabilities (Harvey et al., 1988; Miltenberger & Thiesse-Duffy, 1988; Telljohann et al., 1997). Since children with disabilities have an increased risk of being sexually abused there is a clear need for evaluation of programs for children with disabilities that also considers the issues of skill generalization and maintenance.

Lack of evaluations for children with disabilities. Currently there are many sexual abuse prevention programs on the market and these are available from a wide variety of sources, each targeting a wide variety of groups. These programs use an array of teaching methods including videos, puppets, books, games, etc. However, there are very few explicit evaluations of these programs in regards to their use with children with intellectual disabilities. In addition, the programs that are available specifically for children with disabilities generally do not have readily available literature on their effectiveness.

When programs for children with sexual abuse are evaluated it is important to determine not only whether the program evaluation shows evidence of a gain in knowledge that would

protect the child from sexual abuse, but does the program have social validity. This includes examining whether the parents of the children who participated in the program and the children themselves feel that the program was effective and gave them the skills they would need to protect themselves.

Another area of research that is lacking with regards to sexual abuse prevention is the question of whether these programs do, in fact, reduce the occurrence of abuse for the participants in the program. Currently there is no literature on this specific topic with regards to any program in this focus area that has been used by any population. While the research on some programs has been promising in terms of skills and knowledge gained, this does not necessarily predict a reduction in abuse. With this being the ultimate goal of all abuse prevention programs, an examination of this area is warranted.

Who should teach? The issue of who should be the presenter of a sexual abuse prevention programs for children has shown to be a controversial one in the literature. Controversial in that research has provided mix results as to who can be effective in presenting the material. Since many sexual abuse programs for children take place in a school setting, it is beneficial that the efficacy of teachers as the presenters of the program be shown to be the same as the efficacy of an expert presenter. Expert presenters refer to presenter who consult to schools and have an in-depth knowledge of the material as well as the teaching method. Children have in fact demonstrated similar levels of knowledge gain and skill in videotaped situation tests in both the expert taught group as well as the teacher taught group. As well, a similar number of disclosures were reported with both the experts and the teachers which demonstrate that there was a similar comfort level with both groups of presenters (Hazzard, 1993; Hazzard, Kleemeier, & Webb, 1990).

Parents have also been found to be as effective as teachers in presenting sexual abuse prevention programs. When compared with a control group of children not involved in a program of any kind, participants in parent led programs showed significant increases in skills and knowledge. In addition, these increases were no different from teacher led prevention programs. The results were obtained using a behaviour skills training component by both teachers and parents (Wurtele, Gillispie, Currier, & Franklin, 1992; Wurtele, Kast, & Melzer, 1992).

The direct research on the efficacy of parents versus expert trainers has been mixed. Miltenberger and Thiesse-Duffy (1988), demonstrated that parents were not as effective as experts when using a commercially available program, however, the parent taught group used only a book to read with their children while the expert led group used role-play and behavioural skills training to present the program. These results may have occurred not due to the type of presenter but to how the information was presented. Miltenberger, R., Thiesse-Duffy, E., Suda, K. T., Kozak, C., and Bruellman, J. (1990), found similar results. When experts implemented the same program as parents, the children showed greater gains in knowledge and skills when taught by the experts. The expert training took place with the same child who had previously received the same training with their parents earlier. An alternate explanation for the results might have been that it was a repeat of the program for the child and the improvements may have been due to sequence effects.

Other results have shown that when parents are taught to use a behavioural skills training program with their children, the children are able to achieve similar increases in both knowledge and skill levels compared to an expert led control group (Wurtele, Currier, Gillispie & Franklin, 1991).

Statement of Problem

Research in the area of sexual abuse prevention programs for children with intellectual disabilities is important because, as previously mentioned, there are multiple and extreme consequences on the lives of children who have been abused. Also as discussed earlier children with disabilities are at a higher risk of potentially being sexually abused than typically developing children making prevention an even more important area of research for this population. Despite all the negative consequences of sexual abuse, very little research has been conducted on this specific population of children with disabilities so far and much more is needed.

The purpose of the present study is to determine the effectiveness of a home based sexual abuse prevention program for children with intellectual disabilities using a board game format that includes instructional books and game that uses behavioural skills training as the main method of teaching. This research differs from what is available in the current literature in that it specifically examines sexual abuse prevention programs for children with developmental disabilities. The lack of research that is available in the area of abuse prevention with children and especially with children who have disabilities makes this research vital in beginning to fill that gap.

The game format is also innovative as it allows parents to implement this program at a time that they choose rather than relying on schools or other programs to provide a sexuality curriculum. This allows parents to provide direct skills to their children possibly earlier than would be available through the school system. Additionally, this research will evaluate if in fact parents are effective at implementing sexual abuse prevention programs for their children without the need for an expert presenter.

Methods

Participants

The participants involved in this study were two children with developmental disabilities and at least one other adult member of their family. Each family included at least one parent or guardian and, in the case of participant 2, a sibling. Children with any developmental disability were initially recruited for participation however both participants coincidentally had also been diagnosed with autism spectrum disorders. Functioning levels provided of both of the children that participated in this research were based on parental report only as there was no access to clinical records.

Consent to participate. Participants were recruited through advertising to various associations and groups that support families with children with special needs within the Niagara Region. Specifically, letters were provided to the associations and groups that could be given to qualifying families with information about the project and contact information. See Appendix A for a copy of the letter of recruitment. All interested families were then given an information letter with greater detail about the project and an appointment was made to provide further details. See Appendix B for a copy of the letter of invitation. See Appendix C for a copy of the consent form as well as Appendix D for the assent form. The assent forms were read to the child by the researcher and the children was asked to respond if they agreed to each statement as well as to repeat back to the researcher what was just asked of them in order to ensure they understood.

Participant 1. Participant 1 was a 6 year old boy, who had received a diagnosis of Autism. He was enrolled in a typical grade 1 classroom at school. He spoke in clear full sentences with no apparent difficulty expressing his thoughts. His mother was the parent who

participated in the program with him and was present during all of the game and informational sessions.

Participant 2. Participant 2 was a 7 year old boy who had received a diagnosis of Asperger's Syndrome. He was enrolled in a typical grade 2 classroom at school. He spoke in full sentences but at times was difficult to understand. Both his mother and father participated with him depending on their availability. In addition, his older sister (aged 10 years) participated in some of sessions during the game portion. Participant 2 was an active child who enjoyed animals as well as reading.

Setting

The game play itself took place in the family home in a room that each family determined would be most effective. Most sessions for each participant took place in the family home at the kitchen table. A few of the sessions took place outside on a picnic table for participant 2, depending on the weather, and some sessions for participant 1 took place in the living room. All game sessions were videotaped as well as observed in vivo by the researcher. The researcher also conducted the knowledge test and a probe after each session with the family in the home.

The Story Books

Three books were developed locally for this study. The story books used for each session included pictures of the children and their families in strategic places to support the generalization of the material to each specific child. The books also included prompts that allowed the parents to individualize the material to their child as well as allowing the child to practice and discuss the material presented within the story. Each book was developed based on recommendations from the literature about what should be included in sexual abuse prevention programs. See Table 1 for features of each book and related literature dictating its inclusion.

Table 1

Features of the Books and Supporting Literature

Book Number	Topics Covered	Rationale	Supporting Literature
Book One	Body part names	Background information to allow children to begin discussions about sexual education	Hingsburger, 1994; Roeher, 1989; Sobsey, 1994
	Anatomically correct terms and pictures	Clear and straight forward allowing the child to accurately discuss issues.	Hingsburger, 1994; Roeher, 1989; Senn, 1988; Sobsey, 1994
	Private Parts	To help the child distinguish between body parts and create boundaries for appropriate touch.	Hingsburger, 1994; Muccigrosso, 1991
Book Two	Good touches	Initial introduction to distinguishing between types of touches.	Blumberg et al., 1991; Conte, & Fogarty, 1990; Muccigrosso, 1991; Roeher, 1989
	Asking for touch	To increase awareness that touch is not acceptable when not requested. Teaches child personal boundaries.	Fisher & Field, 1985; Hingsburger, 1994; Roeher, 1989
Book Three	Making choices	Help teach children that they can make choices about things that affect them. Promotes empowerment.	Hingsburger, 1994; Sobsey, 1994; Muccigrosso, 1991; Roeher, 1989; Sobsey & Mansell, 1990
	Manners	Ensure that the child can discriminate between empowerment and being polite.	Roeher, 1989; Sobsey & Mansell, 1990
	Self protection skills	Simple, clear directions of what to do in a situation of abuse. Also provides a wide variety of examples rather than a focus on strangers only.	Conte, et al., 1986; Levy & Packman, 2004; Lumley et al., 1998; Miltenberger et al., 1999; Sobsey, 1994; Sobsey & Mansell, 1990

Book 1. The first book was called "All About Me" and involved labelling all visible body parts of males and females. It also discussed the term 'private parts' and provided prompts for a discussion of the specific parts that males and females have individually. The topics of this book were included to satisfy a need to ensure that the participants were able to correctly identify their own body parts and to provide them with the ability to speak about their body parts should they have questions or in the case of sexual abuse disclosure (Roeher Institute, 1989).

Book 2. The second book was called "A Touching Story". This story discusses how to know what a good touch is and how good touches make you feel. It also discusses how to ask for a good touch and describes what to do when you would like a touch which includes asking, waiting for a response, and then acting appropriately depending on the response that is given. This book is an initial step in developing touch discrimination as it focuses solely on good touches while providing multiple examples of what good touches include as well as how to recognize them. While the literature suggests that teaching good touch versus bad touch is not an effective method of teaching touch discrimination to children, the term good touch was used in this case as it provided an initial introduction to the topic. As bad touch or confusing touch were not discussed in this program, it was determined that good touch was an effective term to use to teach boundaries while not creating the polarity of only good and bad.

Book 3. The third book was called "I'm in Charge". It was a discussion about manners and responsibilities that children have. There was a specific focus on how to say no and how to ask for things you would like using polite language. Choice making was also included in this section to support empowerment of the child (Roeher Institute, 1989). In addition, this book contained a discussion about how children can respond when they ask for something politely but do not receive it. It also includes a section that addresses listening to appropriate adults when

they ask things children might not want to follow through on. This book promotes discussion of who specifically children should listen to and under what conditions.

Rights and responsibilities were taught prior to any discussion about self protection skills for two reasons. The first reason, as discussed earlier, was to ensure that the children were able to make choices and experience saying 'no' to an adult in an appropriate context. It also provided the child with the experience of having an adult listen to their response of saying 'no'. The second reason was that it also taught the appropriate methods of asserting rights as well as discriminating under which circumstances asserting rights is appropriate. These skills laid the ground work for the self-protection skills, which, if they did not have the prerequisite abovementioned skills, would not have been understood or used appropriately by the children engaged in the program.

Finally, this book also included a discussion about what to do if the child does not like a touch that is occurring or has occurred. It described the three steps of saying 'No' loudly, leaving the area and finding a trusted adult to tell. It also included points of discussion about where the child could go and people that are trusted by the child that they could talk to in the event that they did not feel safe.

The Game

The game was in a simple track format where all players began at the same starting point and moved towards the end of the track based on the number they rolled on a die. The spaces on the game were one of 3 colours, blue, red and yellow. Each time players landed on a space they had to pick up a card that corresponded to the same colour square that they landed on and answer the question on the card. The three colours of cards correspond to different types of questions. Yellow cards were statements that provide a clear example of what the participant should or

should not do in different situations. This format allows for the generalization strategy of training sufficient exemplars as described by Stokes and Baer (1977). Red cards asked the participants questions that tested their knowledge of the skills being taught in the books. Finally, blue cards were role play scenarios that provided various situations for the participants to practice their skills. It was during the role play blue cards that behavioural skills training took place.

Behavioural skills training was included in the program by ensuring all four components were represented. The instructional piece came from the story books. These books provided the specific guidelines about what to do in certain situations such as "No Go and Tell" or "Ask, Wait and Respond" when asking for a touch. Modeling occurred when parents were the ones who chose blue cards. This is why it was important that the game be played with a parent so that when they chose a blue card they were able to correctly model the behaviour that was required. Finally, rehearsal and feedback occurred when the participant chose and responded to a blue card. The parents would then comment on their child's actions and observe their child's level of understanding.

Scores were kept on a score card that included a picture of a strong man holding multiple rocks above his head. There was a place at the top for the players to write their name. After correctly responding to the question on the card, the players then got to colour in one stone on their score card. Players would see how many stones they could get coloured in and would compare their scores after each game. Keeping score was not a required component of the game but it did allow for the participants to engage and be competitive should they choose to. Some of the sessions scores were recorded and some did not.

The game was divided into 3 separate programs, each program involving a different story to read prior to playing the game. Each game program also had its own set of cards that

corresponded to the book being read for that session. In addition, the game questions included some questions from topics covered in previous sessions to ensure that topics covered earlier were retained by the child.

Programmed Generalization Strategies

In the development of this program, four of the techniques used to improve generalization of skills discussed by Stokes and Baer (1977) were explicitly included. See Table 2 for an overview of generalization strategies that were included in this program explicitly. The first strategy involved training sufficient exemplars. This was done through including a variety of different examples of pertinent skills and facts within both the books and the question cards in the game. During the role plays, real life situations were played out which allowed the participants to access natural maintaining contingencies. For example, when the participants were practicing what to do when they did not feel safe, they were able to experience the reinforcement of sharing their experience with their parent and being comforted (Stokes & Baer, 1977).

The game also attempted to program common stimuli by conducting the role plays within the family home which is one of the environments that is discussed as a safe place to go. In addition, the role plays were conducted with the parents who were included in the teaching as an appropriate person to tell about abuse. Additionally, many of the other skills such as choice making and manners were taught in the environment were they would be used and reinforced by the parents when the children were at home. The fourth strategy used was to mediate generalization by providing key phases in the books that would help the participants to remember the skills they had learned. There were two key phrases in particular, the first being "Ask, Wait, Respond" with regards to touching others, and the second being "No, Go, Tell". These simple

Table 2

A Description of Generalization Strategies Included in Game Development

Generalization Strategies	Implementation
Training Sufficient Exemplars	Variety of question cards in the game Variety of role-plays in the game Variety of examples in the books
Accessing Naturally Maintaining Contingencies	Role play scenarios with praise from parents
Mediate Generalization	No Go Tell method Three point actions with visual cues
Program Common Stimuli	Program conducted in family home where skills would be used Including photos of relevant people in the books
Individualization	Discussion points in books for parents to discuss relevant issues Discussion points in books for parents to include relevant people or places Flexible role-play scenarios for parents to relate to their situations

phrases were included in the books and practiced within the game to help the participants to be able to generalize the skills they had learned to other environments and situations (Stokes & Baer, 1977). Individualization was included for both participants within the books themselves as well as the teaching methods used. This is further discussed in the results section.

Target Behaviour

The target behaviour of the intervention was pro-social behaviour, which was measured under three categories that included the understanding of good touch, assertiveness and self protection skills. Each skill in the three categories involves three specific responses that were measured. Each set of skills was scored out of three with one point being given for each specific behaviour in the set. The use of three specific responses and the scores related to them is similar to the measurement of self protection skills of adults with intellectual disabilities in Lumley et al. (1998).

For understanding good touch the three responses involved: (a) asking for the touch, (i.e., a hug or a kiss), (b) by using the word please, and (c) waiting for a response without acting, or acting appropriately according to that response, (i.e., giving a hug if the answer was yes or not giving a hug if the answer was no).

For assertiveness the responses included: (a) using please to ask for an item, (b) waiting for a response without acting, (c) then acting appropriately to that response, (i.e., saying thank you or not acting out if the requested item is not given depending on the role play). Scores for assertiveness could also include being presented a non preferred item, saying no thank you, waiting for a response without acting out and responding appropriately if the item is removed by saying thanks or not reacting negatively if it remains. Finally, for self protection skills, responses included: (a) saying no loudly, (b) leaving the area and (c) telling an adult what happened.

Measures

Knowledge test. Knowledge of the skills taught in the game was assessed using 20 questions that have a distinct correct/incorrect answer. There were 5 questions from the first 2 training books and 10 questions from the third book. Five of these questions related to assertion skills and five related directly to self protection skills. The questions were read to the participant by the researcher or by the research assistant at the end of each session. The participants responded verbally to the questions being asked. Three versions of the knowledge test were prepared which included the same questions but in different order of presentation. See Appendix E for a copy of the knowledge test.

Role play. Six role plays were conducted at the conclusion of each session with the family. The role play situations were implemented by the researcher and the research assistant. The six role plays involved two situations from each of the three training themes; understanding good touch, the use of manners and self protection skills, in order to measure the observable pro social behaviour being examined in this research.

In the role play scenarios the researchers played the role of a members of the community or family and this point was made explicit to the children by stating "Pretend I am..." prior to the role play. The researchers acted out the scenario, asked the children how they would respond to each situation and then gave them the opportunity to demonstrate the behaviour they had learned. In total twelve role plays were developed, four from each of the three sections. Of the four role plays from each section, two of them were situations that were presented within the game and two were considered generalization as they had not been taught during game play. Each session included one trained and one generalization role play chosen randomly from each of the three sections in the training. See Appendix F for a copy of the role play scenarios.

Abilities questionnaire. This was given to the parents at the beginning of the research to determine their perception of their children's knowledge and abilities with regards to the game curriculum. See Appendix G for a copy of the abilities questionnaire. It was also provided to the parents at the completion of the program to determine if they perceived any changes in the children as well as to determine their perception of the effectiveness of the training. The questionnaire included 10 questions each of which were on a 5 point Likert-type scale with responses of 0 being the least favourable and scores of 5 being the most favourable of the responses.

Satisfaction questionnaire. A satisfaction questionnaire containing 5 questions related to the parent's experience of the program was provided at the completion of the program. Room was also provided for the parents to write any other comments they might have had about the program in general. The satisfaction questionnaire included 5 questions on a five point Likert-type scale with 0 being the least favourable and 5 being the most favourable response with the exception of the last question where the scoring was reversed. See Appendix H for a copy of satisfaction questionnaire.

Design

A multiple baseline across behaviours design was used to evaluate the effectiveness of the intervention. The four baselines included in the graph represent each of the four sections of knowledge and skills taught within the program. The first included knowledge of body parts from book one, the second included understanding good touch from book two, the third being the use of manners from book three and finally self protection skills, which was also included in book three. The use of a multiple baseline design across behaviours design allowed the researcher to visually analyze the results and determine if in fact there was a relationship

between implementation of the intervention and a change in scores from baseline. A multiple baseline design was appropriate in this instance to examine the initial impact of the intervention in an exploratory fashion.

Data Analysis

Visual analysis of the multiple baseline graphs was conducted and provided the basis for data analysis pertaining to the effectiveness of the training sessions. Scores of six indicated that the child had reached criterion for the role play scenarios and a score of five indicated a perfect performance on the knowledge test.

Procedure

Parent training. At the first session, prior to the implementation of the program and any data collection, parents met with the researcher to discuss the program. The parent training involved a discussion around the topics covered in each of the training books and the rationale behind the inclusion of each training theme. The training also covered how to play the game with their children as well as a discussion surrounding how to reinforce correct responses throughout the game process to increase correct responses from their child during the game. Parents were instructed on the importance of the role play during the game and how to correctly implement behavioural skills training by modeling, providing instruction and offering feedback in response to their child's performance (Miltenberger, 1994). In addition, parents were provided with a list of supports that would be able to provide professional support if it was discovered that abuse had already occurred as well as resources in how to discuss abuse with their child. The parent training took place at the family home and was presented by the researcher in a power point format.

Baseline. Prior to the training and once assent had been obtained from the child and consent obtained from the parents involved, a baseline assessment took place. The parents completed the abilities questionnaire to determine their child's current level of knowledge in the subject areas covered in the program from the parent's perspective. Meanwhile, the child and the researcher completed both the knowledge test and six initial baseline role play scenarios, two from each of the categories. Both the knowledge test and the six baseline role play scenarios were videotaped. The next two meetings with the family also involved the knowledge test and six baseline role play scenarios. Once three baseline data points had been collected, intervention began.

Training. Game sessions took place for one hour for 1-2 nights per week depending on the availability of the family. Both families also took a vacation during the research period which resulted in at least one week in which no training occurred. The researcher observed all game sessions with the family and videotaped them for later analysis. The game sessions began with the parent reading the corresponding story with the child prior to playing the game. Once the story had been read, the parents then played the game with their child to completion. When the game had been completed the researcher engaged in six pre determined role play scenarios with the child and the research assistant, two from each of the three categories. The child also completed the knowledge test with the researcher after the role play scenarios were finished. The entire game session was videotaped for reliability. During some sessions, the role plays preceded the knowledge test as per the participant's request.

Follow up. Follow-up sessions occurred for both book one and book two while the next books were being implemented. These sessions were considered follow-up rather than a maintenance phase as questions from previous books were included in the game for the current

books. Therefore, the participants still had contact with the correct answers to some questions and role-plays that were related to previous books that were currently not in a training phase. These questions from previous books were included to aid in generalization and maintenance of skills throughout the program.

Maintenance. Once the family had completed reading all three of the books with their child during the training, the researcher returned to the family home for a final assessment one week after the last session. The parents completed the final abilities questionnaire about their child which also included questions about their enjoyment, satisfaction and perceived effectiveness pertaining to the game. The researcher conducted the knowledge test again with the child for post test scores and also completed six more role play scenarios with the child for maintenance data.

Reliability Assessments

Inter-observer reliability (IOR) was conducted by a research assistant by viewing videotapes of the participants engaged in the role-play scenarios after all of the sessions had been completed. IOR was also completed for the knowledge test during each of the sessions as both the researcher and the research assistant recorded the participant's answers to each question independently on separate score sheets. For the role-play scenarios, an agreement was scored if both the research assistant and the researcher recorded the same score out of 3 during a given role play. A disagreement was scored if both persons recorded different scores out of 3 during a given role play regardless of the degree of variance in the scores. With regards to the knowledge test, an agreement was scored if both persons recorded the same response to the questions on a given test. A disagreement was scored on the knowledge test if there was a difference in the response recorded on the knowledge test score sheet.

Reliability assessments were conducted for both participants throughout the research process. Reliability for knowledge tests occurred on 85% of the sessions for participant 1 and 100% of the sessions for participant 2. Agreement scores between the researcher and the research assistant were calculated by dividing the number of tests with agreement between the 2 observers by the total number of sessions. Reliability for participant1 on the knowledge test was 92% agreement and 100% agreement for participant 2.

Reliability for role-play scenarios checked on 28% of the sessions for participant 1 and 30% of the trials for participant 2. There were four tapes on which the training sessions were recorded; one session from each tape was randomly selected for reliability testing. Reliability checks occurred during all phases of the program including baseline, training and maintenance phases. Percentage agreement scores were calculated again by dividing the number of role-play senarios that both the researcher and one of the research assistants scored the same response by the total number of role plays observed. For participant 1, percentage agreement scores for the role-play scenarios resulted in an agreement of 95.8% and for participant 2, percentage agreement was 87.5%.

Results

At the completion of the program, participant 1 had completed a total of 13 sessions which included baseline, training, follow-up and maintenance sessions. Participant 2 completed 12 sessions. Both participants reached criterion levels for all 4 skill sets for both knowledge testing and role plays at the completion of the program. The video camera failed to record two of the role play sessions, one session for each participant. Session 12 for participant 1 and session 3 for participant 2 were scored immediately after the sessions by both the researcher and the research assistant independently on paper. Reliability from these two sessions was 87.5% where

100% agreement occurred on all but one of the role plays, which was not recalled by one of the recorders. Detailed results for both participants are provided below.

Participant 1

Participant 1 was very energetic and at points had a difficult time focusing on the game being played. In order to sustain attention throughout the game, various reinforcements were provided for good game playing, i.e. rolling the die onto the table, picking up a question card and remembering to fill in a stone on the score board. Various reinforcements were introduced during session 7 and are further addressed in the discussion section.

Baseline. Baseline data for participant one are graphed in Figure 1. The baseline included three knowledge tests as well as three sets of 6 role-play scenarios. Overall, participant 1's score on the first knowledge test was 60%. This participant's scores with regards to book one-body parts ranged from 60% to 80% (mean=73.33%) correct while scores for book two-good touch reached 100% correct prior to intervention. Results from book three-manners varied from 60% to 80% (mean=62.22%) correct while book three-self-protection skills scores ranged from 0% to 20% (mean=15.55%).

Overall during the first baseline test of the role-play scenarios, participant 1 scored 11.11% correct. Baseline scores from the role-play scenarios during book two had a mean of 83.33% correct with a range from 0-100% correct, which, in conjunction with the knowledge test scores from book two, indicated that the participant had a prior knowledge and good understanding of good touches and how to appropriately ask for good touches. Book three-manners scores for the role-play scenarios were the most variable with a range from 33.33% to 83.33% (mean=51.85%). Book three-self-protection skills showed the lowest baseline results with zero correct results.

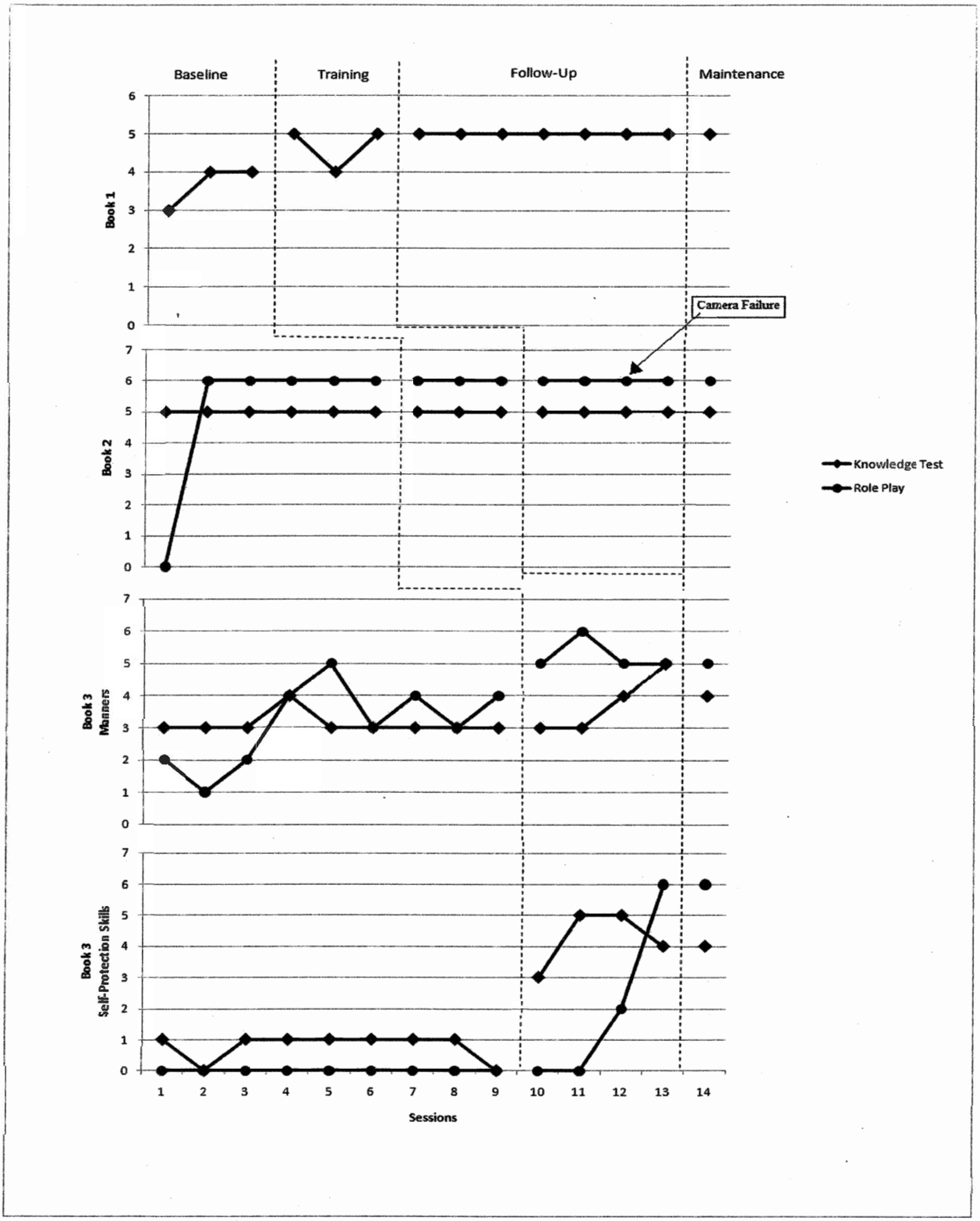

Figure 1. Knowledge test and role play scores for Participant 1 during baseline, training, follow-up and maintenance.

Training. During training for book one, scores of 100% were achieved on the knowledge test after a single training session. During session two, the score fell to 80% however the question that was answered incorrectly was one that had been correctly answered previously during baseline, thus only one other training session was conducted where participant 1 again reached mastery.

Once training was implemented for book two-good touch, there was no change in scores for the knowledge test as scores remained at 100% mastery level which is where they began during baseline. For the role-play scenarios during book two training, scores remained at 100% mastery as they did during baseline.

Training for book three-manners required four sessions to reach mastery level for the knowledge test. Scores did not immediately improve once training began but increased by 20% during sessions 12 and 13 to reach mastery. With regards to the role-plays, improvement in scores was seen immediately once training began however these scores did not remain at mastery level when the training ended. The specifics of these results will be examined in the Discussion section. For book three-self-protection skills, improvements were seen immediately when training began for the knowledge test. Scores reached 100% mastery by the second training session and remained high during the third, however they fell to 80% correct during the final training session. With regards to book three-self-protection skills and the role-play scenarios, scores gradually improved during the third and fourth training session to reach mastery levels of 100% correct.

Follow-up. Follow-up sessions occurred for book one and for book two once the corresponding training sessions for each of the books had been completed and training had begun on the following book. Scores for the knowledge test and role play scenarios for both of the

books remained consistent at mastery level 100% correct for the duration of the follow-up period.

Maintenance. Maintenance scores for both book one and book two remained at mastery levels once training had been completed for all three books. For book three-manners, both knowledge test and role-play scores fell to 80% from training levels of 100% correct. With regards to book three-self-protection skills, role-play scores remained at mastery level while knowledge test scores fell to 80% correct.

Generalization. Testing for generalization of skills in the role-play scenarios was incorporated throughout each of the sessions. When tested, each book included a role play that had been trained in the game and one that had not been trained. Results of generalization of skills indicated that participant 1 was somewhat able to generalize the skills he had learned from trained situations to untrained situations. This is indicated by the similarity of percent correct responses during the training, follow-up and maintenance phases of each of the three books as observed in Figure 2. As indicated in Figure 2 percent correct scores for book two – good touch, during trained role-plays was 100% correct which matched the generalization score for book two of 100% correct. For book three – manners, trained role-plays resulted in 93.33% correct and 80% correct for generalization role-plays. Finally, for book three- self protection skills, percentage correct for trained scenarios resulted in 53.33% correct with generalization role plays scoring 40% correct. In general, skills in good touch were easily generalized while manners and self-protection skills were more difficult to generalize, however generalization did occur.

Parent reports. For participant 1, scores on the ability questionnaire prior to training averaged 3.2 out of 5. Scores reported by the parent prior to training indicated that there was room for improvement in 9 of the 10 areas, with the exception being the use of manners without

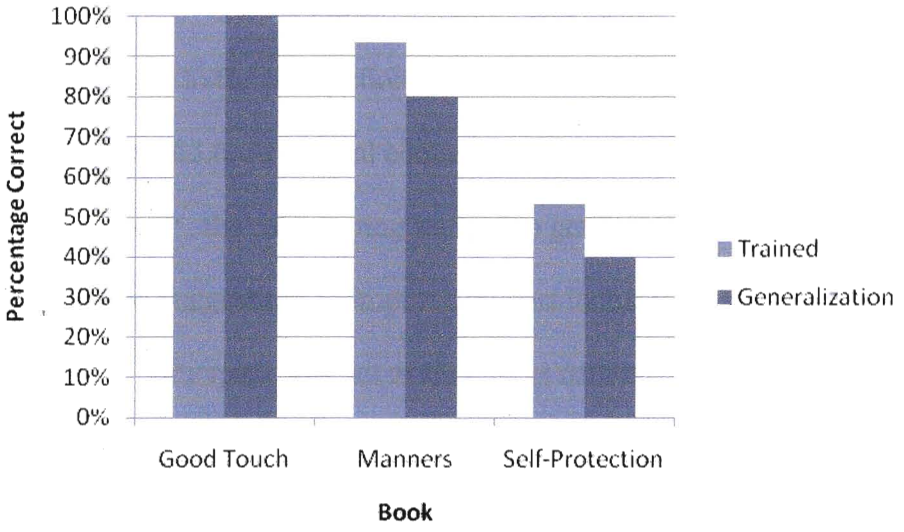

Figure 2. Percentage correct of trained and generalization role play results for Participant 1.

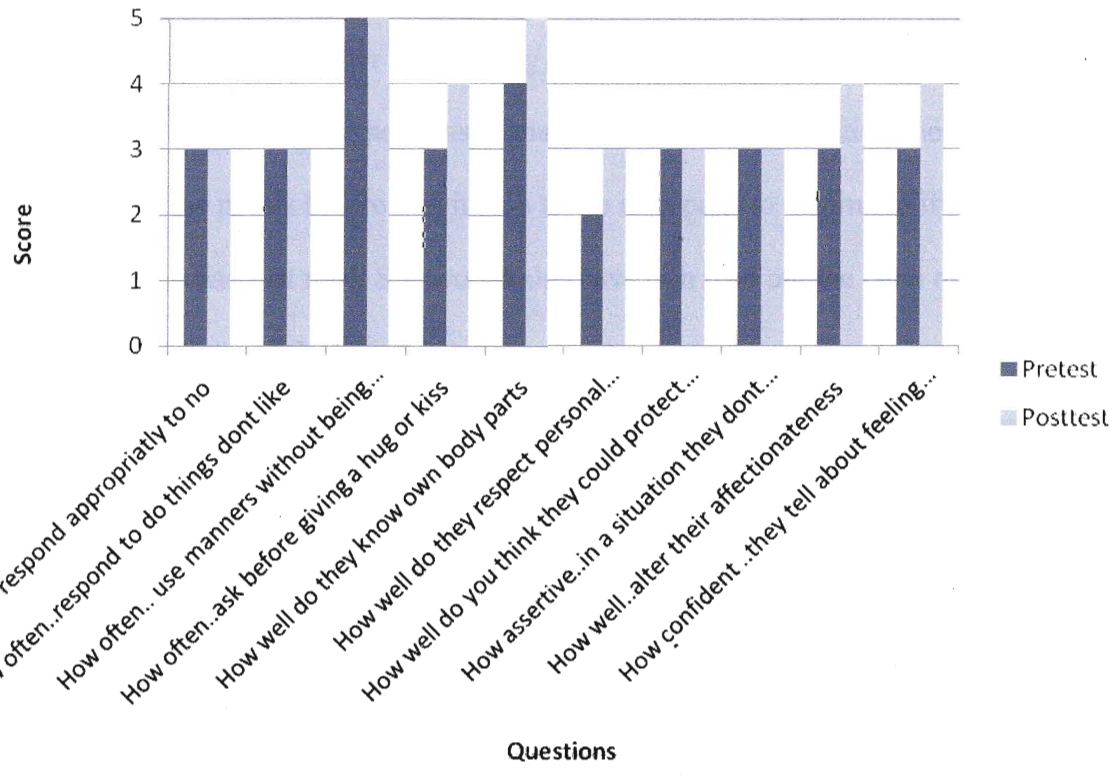

Figure 3. Pre and post test results of parent report abilities questionnaire for Participant 1.

being asked. At the completion of the program, parent report scores increased only slightly on certain questions with an average of 3.7 out of 5. See Figure 3 for scores on the ability questionnaire. With regards to the satisfaction questionnaire, the parent of participant 1 scored 18 out of 25 with an average of 3.6. Anecdotal comments stated that "the books and the game were very informative" and that "...the role playing seemed to get through..." However, the participant did lose interest and some suggestions to improve interest included more fun in the content or a better time of day so the participant was not as tired or as rushed.

Participant 2

At times during the game as well as during the testing, the researchers as well as participant 2's mother had to ensure he was paying attention before asking questions. This involved establishing eye contact and waiting for a verbal response after asking the participant if he was ready to continue. Participant 2 would sometimes read the appropriate book to himself quietly before playing the game rather than having his mother read it to him. However, his mother would ensure that during the portions of the book that were interactive she would question him about these points before moving on to the next page to determine if he comprehended what he had just read. She would also have him read out the parts of the book that were interactive and discussed these with him.

Baseline. Baseline data for participant 2 are shown in Figure 4. As with participant 1, baseline for participant 2 included three knowledge tests as well as 3 sets of 6 role-play scenarios. Participant 2 scored 55% on the first baseline knowledge test. Overall during baseline, scores from book 1 knowledge test remained at 80% correct. Book two knowledge test results varied with a range from 20% to 80% (mean=53.33%). Role-plays for book two during baseline ranged from 66% to 100% correct (mean=86.11%). Results from book three-manners knowledge

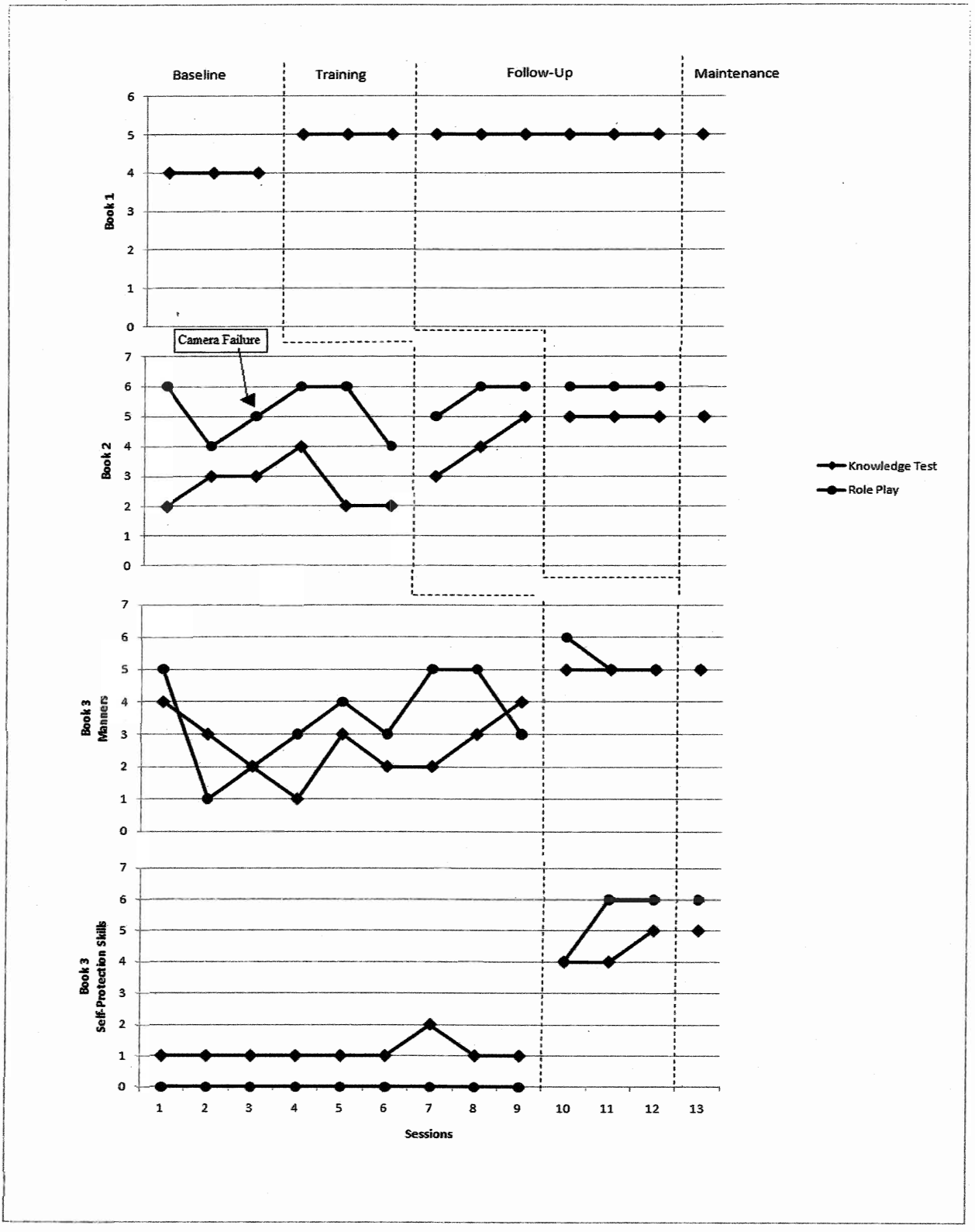

Figure 4. Knowledge test and role play scores for Participant 2 during baseline, training, follow-up and maintenance.

baseline ranged from 20% to 80% correct (mean=53.33%) Role-plays for book three-manners ranged from 16.66% to 83.33% correct (mean=57.40%). Finally, book three-self-protection skills results from the knowledge tests varied between 20% and 40% correct with a mean of 22.22%. Role-play scenarios for book three-self-protection skills remained at 0% correct throughout baseline.

Training. Training for book one resulted in an immediate increase in scores to mastery level of 100% correct on the knowledge test. Once training was implemented for book two, scores for the knowledge test gradually increased to 60%, 80% and 100% correct by the final training session. With regards to the role-play scenarios for book two, scores began at 83.33% and after the second training session, scores reached mastery criteria of 100% for the remaining two training sessions.

Book three-manners knowledge test scores increased immediately after training to100% correct and maintained that level throughout the training. Role-play scenarios on the other hand increased to 100% correct during the first training session but then fell to 83.33% where they remained for the remainder of the training sessions despite additional focus on these questions by the parents.

With regards to book three-self-protection skills, the knowledge test showed a sharp increase to 80% correct once training was implemented and remained at 100% correct at training completion. Role-play scenarios also increased dramatically once training began with a jump to 66.66% after the first training session then increasing again to 100% mastery criteria during the final two training sessions.

Follow-up. During follow-up, knowledge test scores from book one remained at mastery criteria of 100% for the duration of the remaining training sessions. For both the knowledge test

and the role-play scenarios of book two, scores also remained at mastery criteria once follow-up occurred.

Maintenance. Maintenance of knowledge was shown for book one-body parts as well as book two-good touch, and scores remained at 100% for book two-good touch role play scenarios. Book three-manners remained at mastery criterion for the knowledge test but remained at 83.33% for the role play scenarios. Finally, for book three-self-protection skills, knowledge test results were maintained at mastery levels, however, skills learned from the role-play scenarios fell to 66.66% correct.

Generalization. Generalization for participant 2 indicated that he was able to fully generalize the skills he had learned in each of the books to untrained scenarios that were presented. Again, generalization was calculated by comparing the percentage correct scores during training, follow-up and maintenance scores for both trained and untrained scenarios. During book two – good touch, trained role play scores equalled 95.23% correct while generalization results showed 100% correct. For book three – manners, scores for the trained role plays was 91.66% correct while generalization role plays were 83.33% correct. Finally, for book three – self-protection skills, both trained and generalization role plays were 83.33% correct. These results demonstrate that the skills participant 2 learned were able to fully generalize to untrained situations for two of the three of the role-play scenario types and were partially able to generalize skills learned in the third book pertaining to manners. See Figure 5 for results.

Parent reports. Prior to training, participant 2's parents reported an average ability score of 3.4 out for 5 with an indication of room for improvement in all areas except knowledge of body parts. At the completion of the program, parent report scores increased only slightly on certain questions with an average of 3.7 out of 5. See Figure 6 for complete results of the abilities

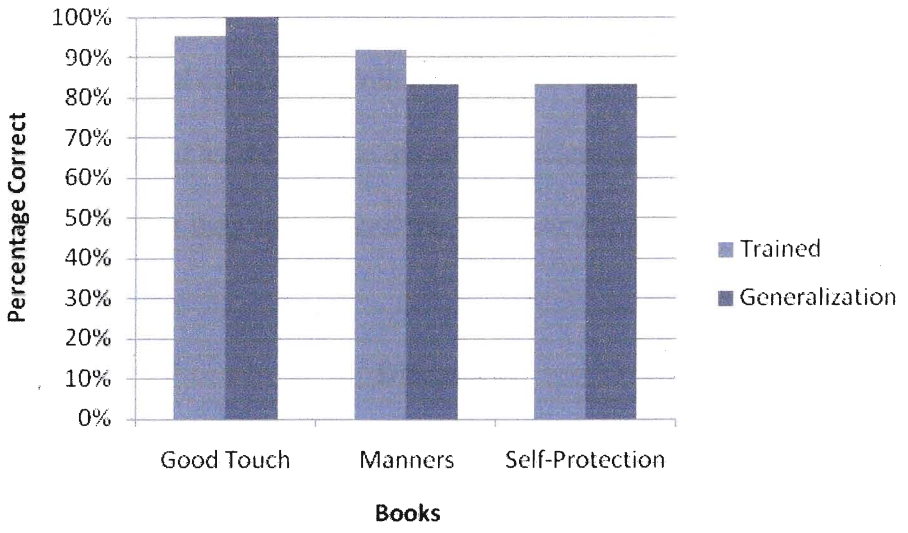

Figure 5. Percentage correct of trained and generalization role play results for Participant 2.

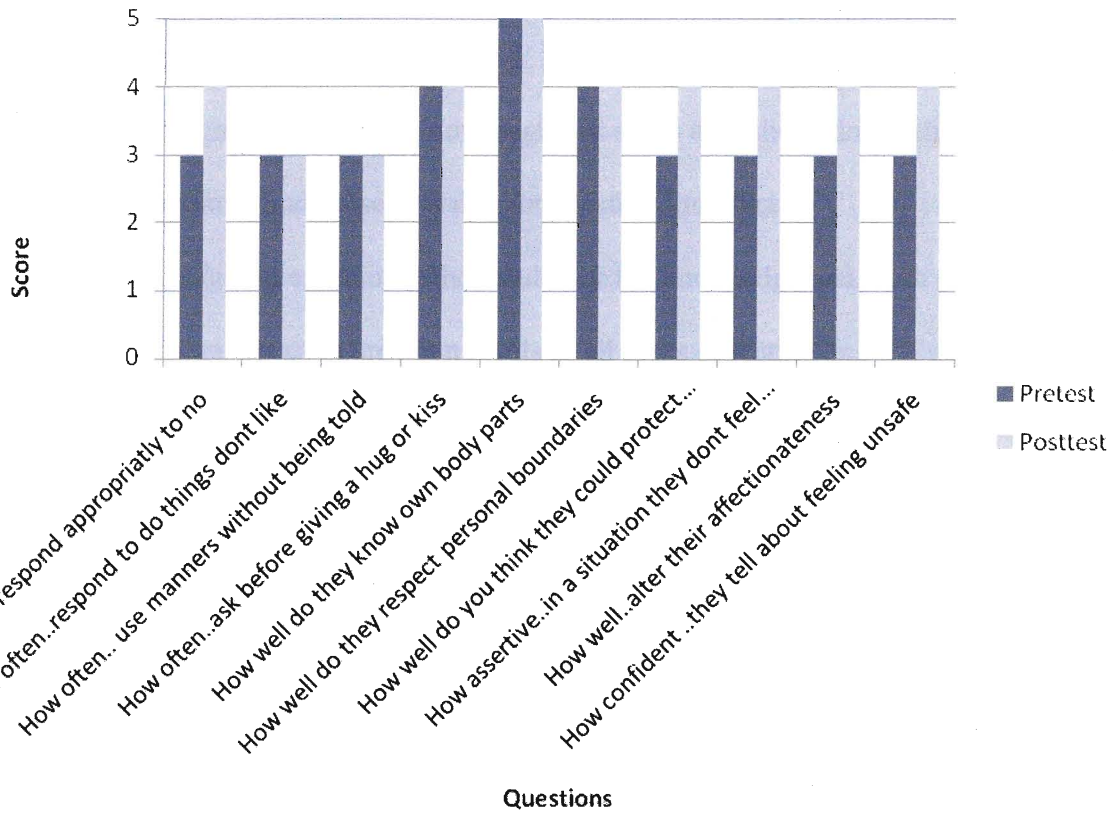

Figure 6. Pre and post test results of parent report abilities questionnaire for Participant 2.

questionnaire. With regards to the satisfaction questionnaire, the parent of participant 2 scored 25/25 (mean = 5). Anecdotal comments from the family of participant 2 state that "the game was too easy at the beginning but as soon as the questions became harder, it was great!" The parent of participant 2 also stated that they appreciated the "positive experience with a potentially difficult topic."

Discussion

Comparison to Other Studies

Beginning by comparing baseline results from both participants 1 and 2 to similar studies in the literature, their initial scores for book three-self protection skills are representative of the literature suggesting that children with disabilities did not have these skills in their repertoire by the age that participation in the program began (Harvey, Forehand, Brown, & Holmes, 1988; Miltenberger & Thiesse-Duffy, 1988; Senn, 1988; Sobsey, 1994; Telljohann, Everett, & Price, 1997). Further results regarding gains in knowledge and skills also show similarities between results found in this research and those found in the existing literature.

Gains in knowledge. In examining the results for the knowledge test, both participants increased their knowledge scores to criterion levels in all areas of testing and maintained these levels into maintenance with the exception being one incorrect response from participant 1 during the final training and maintenance phase on the last book – self-protection skills. The question that was answered incorrectly in both of these cases was the question "where should you go if someone touches you and you don't like it." In both instances, the participant answered "to the teacher." While the correct answer to the question was either a statement of going somewhere you feel safe or a description of a physical space that would be safe such as another classroom or another room in the house, a response of to the teacher may, in fact, be a place that

the child feels safe and would easily lend itself to the next step of the prevention program in telling someone you trust about the situation.

Overall, there was a great improvement in knowledge gained from the program itself as clearly indicated by the improvements in scores, especially with regards to book three – self protection skills where at baseline, only one question per participant was answered correctly. These results are similar to knowledge gains in Lumley et al., (1998) and Miltenberger and Thiesse-Duffy, (1988).

Anecdotally, one question in particular was troubling participant 1 who became frustrated by the researcher continually asking the question about whether a secret about a touch should be kept. Participant 1 stated that he did not know the answer to this question and during his responses in the knowledge test would vary between "maybe" and "I don't know." It was clear this question posed a dilemma for this participant as he understood the concept of keeping secrets but was not sure about keeping a secret in this situation. When completing the knowledge test the first time after training on the third book began, he responded "No! You should not keep a secret and I know that because I read it in the book!" This example demonstrates that without having discussed what to do in this situation prior to training, the participant was unsure of how to act, however the program was able to bring this topic to the table and provide a solution.

A possible explanation of why some results, specifically in book three, were difficult to remain at criterion could be due to over learning of an incorrect answer. As the same questions within the knowledge test had been presented since baseline, and no answers could be given to the participants during the knowledge test, the participants repeated the same incorrect answer multiple times without correction. It was not until the final training sessions when the correct answer could be provided through the game and the books that the participants could practice the

correct answer but they did not have as long to practice the correct answers as they did the incorrect answers.

Gains in skills. While answering questions to a test is an indicator of an understanding of the material being presented, it is irrelevant if the information gained is not used in situations where it would be beneficial. Therefore, gains in skills are the most important part of this research to determine the effectiveness of this program.

With regards to book 2 – good touch, participant 1 had the skills prior to training and as such did not show any improvement in skills in this area. Participant 2 however was able to show improvement as he had difficulty ensuring that he waited for a response before giving someone a touch after asking. This was also evident in his verbal response to the knowledge questions related to this topic as he did not know what should be done before giving someone a hug. After training, criterion level was reached for participant 2 in book 2. The literature, while acknowledging that information about good touches was taught in many of the programs, in general does not provide data on skill levels in this area. The self protection programs focus specifically on the skills of self-protection when measuring outcomes and do not include data on skills pertaining to knowledge of good touch; therefore it is not possible to discuss these results in relation to the literature (Egemo-Helm et al., 2007; Khemka, 2000; Lee & Tang, 1998; Lumley et al., 1998; Mazzucchelli, 2001; Miltenberger et al., 1999).

As with skills pertaining to good touch, the self-protection literature does not include evaluations of skills gained with regards to manners, however in this research, both participants were able to show gains. While both participants did at one point reach criterion, neither participant was able to maintain these levels at criterion level; rather they both dropped one point below. The rational for this is that it could be a result of the role-plays selected as both

participants had a difficult time responding "no thank-you" in situations that required that response. In particular, participant 2 in fact did like the item that was presented first that required a response of "no thank-you which could have impacted the role-play scenarios. When told "pretend you do not like this item" participant 2 had a difficult time responding the way that he would have if in fact he did not like the item. This could be due in part to his diagnosis of autism and issues involving theory of mind that research has shown to occur in children with autism (Rutherford, Young, Hepburn, & Rogers, 2007). However, participant 1 did not have difficulty in pretending he did not like the item, yet a "no-thank you" response was still difficult for him.

Moving to the third book – self-protection skills, it is much easier to make comparisons to other research. Both participants showed marked improvement in self-protection skills once behavioural skills training was implemented through the program. Both participants reached criterion level for skills at the end of the program which was the most important piece of information offered through this program. These results match those of Lumley et al., (1998) and Miltenberger et al., (1999) in their research with adults as well as Miltenberger and Thiesse-Duffy (1988) and Telljohann, Everett, and Price, (1997) in their research with children.

With regards to maintenance of these skills, Lumley et al., (1998) showed criterion levels for 5 out of 6 participants at a one month follow-up which are similar to results to those found in this research that role-play skills were maintained at follow-up, however the follow-up length in this research was significantly shorter at one week than the follow-up conducted in other literature. Most of the literature that included follow-up assessments, did find that during follow-up skills in general were maintained after completion of the behavioural skills training for both typically developing children and adults with intellectual disabilities (Miltenberger & Thiesse-Duffy, 1988; Telljohann et al., 1997; Harvey et al., 1988).

In general, the results found in this research regarding gains in both knowledge and skills, were similar to results found in the literature, where available. It is difficult to fully compare these results as the existing literature did not test for all of the skills taught but rather focused on the actual act of self-protection.

Parents as presenters. The literature on parents as presenters is mixed. There are varying views on parents being effective at teaching their children sexual abuse prevention skills. The results from this research also show mixed results. At face value the graphs indicate that parents were able to teach their children the skills needed to reach criterion levels in all of the areas, however, some additional comments need to be made.

For participant 1, the books and the game themselves proved to be sufficient in increasing scores for both knowledge and role play scenarios without further direction from the researcher until self-protection skills became the focus. While the books and the game were sufficient to increase knowledge as measured by the knowledge test, improvements were not immediately seen in the role-plays once training began. As shown in the graph, sessions 10 and 11 showed no change in skills for the self-protection role plays. Prior to session 12, additional parent training was included. The specifics of this training will be discussed in the next section, however, essentially, the game and program, as designed, were not sufficient to teach these skills to participant 1.

These results are consistent with the literature suggesting that parents are not able to teach their children sexual abuse prevention skills (Miltenberger & Thiesse-Duffy, 1988). However, when provided with additional parent training, participant 1 did reach criterion level without the need for an expert to implement the program, as was the case in Miltenberger and Thiesse-Duffy (1988).

Similarly, participant 2 had difficulty with one area of instruction that did not improve without additional parent training; however, this area was in the knowledge section rather than the role-plays as with participant 1. Participant 2 had difficulty verbalizing what was required before giving someone a touch, such as a hug. Once additional parent training was added to the program, the participant was able to reach criterion levels and remain there throughout the remainder of the program. These results are again consistent with the literature which is still mixed as to determining whether parents can be effective at teaching their children self-protection skills (Miltenberger et al., 1990; Miltenberger & Thiesse-Duffy, 1988; Wurtele, Currier, Gillispie & Franklin, 1991). In general, the program produce positive results in both knowledge and role play as developed, but with the addition of focused parent training, the participants were able to met criteria in all areas. Generally speaking, the additional parent training is not a negative feature and is something that would be beneficial to be included into the existing program as a support to parents and to help make the program more effective overall.

Research in the Community

One of the largest issues that became apparent during this research process was the involvement of the participant. There was initial difficulty in finding families who consented to the research process as it was proposed. Two possible explanations became apparent during this process. The first was the nature of the subject that was being examined. It was imperative that potential participants developed a trusting relationship with the researcher from the beginning as the topic of discussion, sexual abuse, is a difficult one. It also brings thoughts of abuse to the forefront of potential participants' minds making the consent process more difficult with worries about possible disclosure. This can be related to the term "stress of entry" in fieldwork reactivity

research (Field & Morse, 1985). In this stage the participants may act differently when they first encounter researchers and show some discomfort with their presence. It was initially difficult for the researcher to develop that relationship with some potential participants when discussing the content of the program making it difficult to find participants.

The second reason for difficulty in finding participants was the nature of the program and the commitment required from the participants. This research required a family to allow the researcher into their home and observe while they interacted with their child. This invasiveness required a significant time commitment from the family as well as a significant level of trust with the researcher. This level of trust can have an impact on the data as to what behaviours occur (Paterson, 1994).

Once the consent process is completed, there are other issues that arise simply from the researcher's presence. With the researcher being involved in the home and engaging in the role plays with the participant, a relationship was established between the child and the researcher. This relationship may have had an impact on the way in which children viewed the game. With one participant it was clear from the child's comments that the researcher appeared to be someone who was fun and was someone with whom the child wanted to interact, however due to the methods of the program, the researcher was unable to play the game with the participant. The participant made it clear that he wished that he could engage in the program with the researcher and being unable to do so may have added to issues with engagement in the program. The games may have become a chore that had to be completed before the participant could engage in role playing with the researcher. The literature on researcher-participant relationships focuses mainly on ethnographic and action research and very little is discussed in behavioural research; however reactivity may still be an issue (Paterson, 1994).

Game Development

With regards to the game play and program itself, two additional issues must be addressed that became apparent throughout the intervention. The first pertains to the reinforcing properties of the game and program itself. The second pertains to additional teaching strategies provided to parents beyond the initial parent training meeting.

Issues in reinforcement. Midway through the training sessions, both participants 1 and 2 demonstrated that they were losing interest in the game and the books despite the changing stories and questions that were being presented. During game development it was assumed that the game format and the changing questions would be sufficient to maintain interest and engagement with the game, however this was an incorrect assumption. In order to maintain interest and to continue with the program, changes were made for both participants in different manners.

For participant 1, the length of the game seemed to be an issue. This was evident by the participant taking longer to roll the die and to move his game piece as well as an increase in fidgeting and moving from the game play area. In order to proceed, various reinforcement strategies were included during the game sessions. The strategies that were used included working for edibles after a few rolls of the die, allowing the participant to choose a point at which a break would be taken from the game as well as allowing the participant to choose how the break was taken. Some of the choices that were made included playing videogames, watching movie clips, playing with remote control cars, playing a computer game and showing the researchers new toys and games.

Additionally, as discussed above, participant 1 was particularly impacted by the presence of the researchers. He continually wanted to enjoy the game with the researchers who were

unable to play with him during the course of the data collection. Therefore a final reward for engagement was to play the game with the researcher and research assistants at the completion of the last maintenance data collection period. The participant asked and was reminded about this final session at each session as it was something he was looking forward to.

For participant 2 the reinforcement was more consistent. Midway through the sessions when engagement became an issue, the game itself was altered slightly. Keeping participant 2's enjoyment of Pokemon™ in mind, Pokemon™ stickers were included in the game. The participant was able to choose places on the game board to place 2 types of stickers, one that if landed on would move the game piece ahead two spaces and one that would move back two spaces. Additionally, some stickers were placed on the question cards which made those questions worth more points than cards without stickers. This addition of the stickers did not have any impact on the actual skills being taught or the questions being asked, however it was sufficient to increase game engagement and allow the intervention to continue to completion.

It is difficult to determine what caused of the lack of engagement with the game for both participants. It is possible that the routine of having to play the same game once or twice per week for 12-13 weeks could have been a factor. Typically, while playing a board game, there is usually no set time in a family situation and the child would be able to choose the game allowing him to have an investment in his choice. This game was the same each week and the participant did not have a choice of when the game was played because of needing to fit into the schedule of both the family and the researchers. Therefore, with lack of choice the game may have become too much of a routine to be entertaining.

This explanation can be supported by the fact that the game appeared to be entertaining to both participants during the first few sessions. Additionally, both participants reached the point

of lack of enthusiasm for the game at almost the same time, session 7 for participant 1 and session 8 for participant 2. This finding indicates that the game itself needs to be modified to suit the children playing it individually. This could include adding game pieces chosen by the participants such as stickers or action figures as well as including other children such as siblings or friends in the game play to make the game more entertaining and competitive for children.

Additional parent training. As mentioned earlier, both participants needed additional support to reach criterion levels for two separate problems. In both cases additional parent training was brief and came in the form of one on one conversation with the parents prior to the session. For each parent, additional parent training only needed to occur once to show an improvement. Additional parent training for the parent of participant 1 involved discussing how to ensure that the participant was correctly role playing the steps of self-protection. The parent was instructed to focus on each of the three steps of self-protection by discussing them as they came up in the books. The parent was also instructed about how to use helpful cues, such as reminding the participant that there were 3 steps involved and counting out each of the steps as they read and practiced them. The parent of participant 1 began to use additional strategies when practicing the role-plays in the game such as statements of "show me" when the participant would correctly describe what to do but did not actually role-play the correct response. These additional methods were sufficient for participant 1 to reach criterion during self-protection role-plays.

For participant 2, issues arose with regards to what to do before giving someone a touch. Additional parent training involved similar parent coaching methods as were used with participant 1. The parent was instructed to focus on that response during the game as that was the only question the participant was having difficulty with at the time. The parent reminded the

participant of the three steps and helped by using visuals and counting out each of the steps. In addition, the parent was instructed to ensure there were as many opportunities as possible to practice during the game and they did so asking the participant what the three steps were and having him label the steps as he role played corresponding scenarios.

In both cases, additional parent training simply involved providing the parents with methods to increase the attention to areas where their children were not gaining the knowledge or skills naturally through the program. In this program, additional parent training was initially not considered until it was deemed necessary as demonstrated by the data. In turn, additional parent training came in the form of verbal communication, however for future development of the program it would not be difficult to provide a roadblock guidebook to help parents if it appears their child needs some additional support.

Alternatively, additional parent training may not have been necessary if parents initially had been provided with a list of goals for the program. Within the literature pertaining to who should teach, there is a difference between experts and parents however the experts know which skills specifically will be evaluated but parents, while they may have a general idea, do not explicitly know what is being evaluated and may not focus specifically on those skills (Miltenberger et al., 1990; Miltenberger & Thiesse-Duffy, 1988). Future developments of this program should include both a list of goals describing the skills this program is helping to teach as well as a problem solving guide that can give general supports if the parents see a lag in their child's learning.

Limitations

The first limitation of this study was the sample size. With only two participants it is difficult to generalize the findings to other children; however the initial implementation of this

program has shown positive results. It would be beneficial to continue with replication of this study with a larger population. In addition, both children had a diagnosis of autism which does not allow for comparison to children with other disabilities or even children with lower functioning autism as both participants were higher functioning. The results of this study may not generalize to children with lower functioning autism as issues with role playing may occur (Rutherford et al., 2007).

Additionally, due to the nature of the topic, it was not possible to test the generalization of skills to the natural environment. While it was seen that the skills could be generalized to novel situations that had not been taught, it remains unknown whether the skills could be generalized from the home to the outside world. Lastly, it would have been advantageous to conduct further sessions of the last book to ensure that skills remained at criterion level as well as conducting additional maintenance sessions, however, the lack of availability of the participants did not allow for this to occur.

Implications

The preliminary results of this study suggest that behavioural skills training can be used in a game format to teach children with disabilities self-protection skills. In addition, the results have indicated that with guidance, parents are able to present this information to their children successfully. With multiple generalization strategies included in the development of the program, the participants may be able to generalize their learned responses to novel situations presented as they did with the generalized role play scenarios in the testing.

By allowing parents to direct the instruction of self-protection skills, they have the ability to present pertinent information to their children at an earlier stage than dictated by the school system. Additionally, by providing these skills to their children, the risk of sexual abuse can be

decreased and potentially protect the children from the various effects that sexual abuse may lead to as discussed in the introduction. The further verification of this would however require the use of in-vivo probes to determine if the various learned responses are used when faced with the situation in real life.

Conclusion

In conclusion, the results of the current study demonstrated that skills related to sexual abuse prevention can be taught to children with disabilities through a game format. In addition, the skills learned within the game produced generalized responses to novel situations not taught through game play. Finally, this research suggests that parents are able to effectively present the material of sexual abuse prevention to their children, which was further enhanced when additional supports were introduced. Further research is needed to replicate this program with a larger and more diverse group of participants. Future replications should additionally include in situ testing to further evaluate the generalization of this program.

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Appendix A

Letter of Recruitment

Title of Study: Teaching self protection and social skills to children with intellectual disabilities through game play

Principal Investigator: Melissa Johnston, MA Student, Center for Applied Disability Studies, Brock University

Faculty Supervisor: Dorothy Griffiths, Associate Dean, Faculty of Social Sciences, Brock University

I, Melissa Johnston, MA student, from the Center for Applied Disability Studies at Brock University, am looking for families who would be interested in taking part in a research project that aims to provide children with important life skills that will help them stand up for themselves and protect them.

As you may or may not know there is an increase risk for children with disabilities to be sexually abused during their lifetime. There are many different theories as to why this increase risk exists, but what is known for sure is that extra precautions should be taken to help protect these children.

One of the ways that we can help protect these children is by teaching everyday life skills that will help them to become more assertive in knowing and asking for what they want, while at the same time teaching the appropriate ways to assert these rights. This includes encouraging decision and choice making skills while also teaching manners and respect when things do not go our way.

My research involves family time together playing a specially designed board game with instructional books to go along with the game. The topics covered in the books include talking about what good touches are, teaching how to ask before giving someone a touch, as in a hug or a kiss, the importance of manners and respect as well as what to do if you don't feel safe, which involves saying no, leaving and telling an adult. The goal is to teach important skills while at the same time having fun and spending time together.

I would love to give you more information about this research. If you think you may be interested in participating or if you would simply like some further information about the program and/or the research, please contact me either by phone or email.

If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

Thank you

Principal Investigator:
Melissa Johnston, MA Student
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Brock University
905-931-1513; mj03sw@brocku.ca

Faculty Supervisor:
Dorothy Griffiths, Associate Dean
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This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 08-169)

Appendix B

Letter of Invitation

Title of Study: Teaching self protection and social skills to children with intellectual disabilities through game play

Principal Investigator: Melissa Johnston, MA Student, Center for Applied Disability Studies, Brock University

Faculty Supervisor: Dorothy Griffiths, Associate Dean, Faculty of Social Sciences, Brock University

I, Melissa Johnston, MA student, from the Center for Applied Disability Studies at Brock University, invite you and your child to participate in a research project entitled Teaching self protection and social skills to children with intellectual disabilities through game play.

The purpose of this research project is to determine if children with intellectual disabilities can learn self protection skills by playing a specialized game with their parents. The game will teach children how to make choices and stand up for their choices in a polite but assertive manner depending on the situation. Children will learn personal boundaries and manners. It will also help the child to learn what to do when they do not feel safe.

The expected duration of your participation is maximum 18 hours and will take place as follows:

Research Session	**Content**	**Length**
Parent Training at Brock/At home depending on family	Presentation given by researcher on the content of the books, an introduction on how to play the game, discussion on how to reinforce correct responses from your child.	One hour maximum (Once)
Baseline Testing at Brock/At home	Parents will complete abilities questionnaire. Child and researcher will complete knowledge test and six role play scenarios	30 mins (Once)
Baseline Testing at Home	Researchers and child will complete 6 role play scenarios and knowledge test	One hour (Twice)
Intervention Sessions	Parents and child will read the book for that session and play the game. Researchers and child will complete knowledge test and 6 role play scenarios	One hour (1-3 times per week)
Final Assessments	Parents complete abilities questionnaire and satisfaction questionnaire. Researchers and child will complete 6 role play scenarios and knowledge test	30 mins (Once)

This research should benefit your child in that they will be able to stand up for their choices but also be aware of how to act when something they want is not available to them at that time. They will also learn self protection skills when they do not feel safe. This research will also benefit

other families with children with intellectual disabilities as it will begin to fill the gap on abuse prevention for this population.

You will be asked to attend a one hour information session to learn about the game and how it works at Brock University or in your home before the sessions begin, and the remainder of the sessions will take place in your home.

If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

If you have any questions, please feel free to contact me.

Thank you
Melissa Johnston

Principal Investigator:
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This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 08-169)

Appendix C

Informed Consent Letter

Date:
Project Title: Teaching self protection and social skills to children with intellectual disabilities through game play.

Principal Investigator: Melissa Johnston, MA Student
Center for Applied Disability Studies
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INVITATION

You are invited to participate in a study that involves research. The purpose of this study is to evaluate the use of a sexual abuse prevention game for children with disabilities through the use of a parent-led home-based program.

WHAT'S INVOLVED

As a participant, you will be asked to initially attend a parent training session at Brock University to learn about the game and what it will teach your child. This session may also take place at your home depending on family needs. You will then be asked to play the game with your child two to three times a week after reading the story with them in your own home. The researcher and an assistant will be present in your home as the game is being played and will engage your child in a knowledge test and 6 role play scenarios at the end of each session. Participation will take approximately 18 hours of your time depending on your child's ability to move through the material.

The sessions will be videotaped for later analysis of the role play scenarios. Your child's participation will involve reading the stories with you then playing the game 2-3 times per week then being involved in 6 role playing scenarios and a knowledge test after each time the game is played. Your child's total participant will be approximately 18 hours.

POTENTIAL BENEFITS AND RISKS

Possible benefits of participation include providing your child with skills that will help them to be more aware of their choices when dealing with authority figures, awareness about their own body and teaching them manners when making their own choices. They will also learn skills that may be able to prevent sexual abuse from occurring. There may also be risks associated with participation. While your child will not be exposed to any situations during participation that depict potential abuse, the material covered discusses what to do if your child does not feel safe or does not like a touch that they experience. Depending on the child this does have the potential to scare them or ask further questions of you and the material covered.

CONFIDENTIALITY

Neither yours nor your child's name will be traceable to any of the videotaped sessions or on any of the data collected. Data collected during this study will be stored in a locked cabinet at Brock University in a locked office. Data will be kept for one year after which time all video tapes will be deleted and all data will be destroyed. Access to this data will be restricted to the principle investigator (Melissa Johnston), the faculty supervisor (Dorothy Griffiths) and one research assistant. Anonymity cannot be maintained due to the fact that all sessions will be videotaped, however only the researcher, research assistant and faculty supervisor will have access to these videos. It may not be possible to ensure confidentiality because of mandatory reporting laws (e.g. suspected child abuse or reporting of child abuse). In cases of suspected abuse, videotapes may be provided to family and children's services.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled. Your child may also withdraw from playing the game or being involved in the role plays if they do not wish to participate.

PUBLICATION OF RESULTS

Results of this study may be published in professional journals and presented at conferences. Feedback about this study will be available from Melissa Johnston at the email address listed above at its conclusion in October 2009.

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact the Principal Investigator or the Faculty Supervisor (where applicable) using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (08-169). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I also agree to have my child participate in this study. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____ Child's Name _____

Signature: _____ Date: _____

Appendix D

Informed Assent

Date:
Project Title: Teaching self protection and social skills to children with intellectual disabilities through game play.

Principal Investigator: Melissa Johnston, MA Student
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The child will be read the following statements then asked if that is ok. The researcher will then ask the child to repeat what was asked of them to ensure their understanding. The research assistant will record the response from the child.

1. You are going to read a book and play a game with your mom/dad/parents. Is that ok? Can you repeat to me what I just told you?

   _____
   _____

2. After the game we are going to ask you some questions about what you learned. Is that ok? Can you repeat to me what I just told you?

   _____
   _____

3. We are going to act out some stories and ask you to tell us what we should do. Is that ok? Can you repeat to me what I just told you?

   _____
   _____

4. While you are playing the game and acting, a video camera will be taping what is happening. Is that ok? Can you repeat to me what I just told you?

   _____
   _____

5. If you don't want to do something it is ok to say "I want to stop please". Can you repeat to me what I just told you?

   _____
   _____

Appendix E

Knowledge Test A (Answers)

1. What are these called? (Point to your knees as question is asked)

   Knees

2. What is this called? (Point to your bum as question is asked)

   Bum

3. Do you have a penis or a vagina?

   Dependent on gender of child

4. What covers our private parts?

   Underwear

5. What are these called? (Point to your elbows as question is asked)

   Elbows

6. What is a good touch?

   A touch that makes us feel happy or a touch we asked for

7. What 3 things should you do before giving someone a hug?

   Ask and wait for an answer then give a hug

8. How do good touches make you feel?

   Happy

9. Give an example of a good touch?

   High five, a hug, a kiss etc.

10. Do you have to ask before giving someone a hug?

    Yes

11. What are your manners?

_____ Please and thank-you being polite_____

12. What do you say when someone gives you something you don't like?

_____No thank you_____

13. What do you say when someone gives you something you like?

_____Thank you_____

14. Who is it important to listen to?

_____Mom and dad, teachers_____

15. What polite word do you use when asking for something that you would like?

_____Please_____

16. Where should you go when someone touches you and you don't like it?

_____ Somewhere you feel safe. Away from the person who touched you_____

17. What should you say when someone touches you and you don't like it?

_____NO _____

18. How should you say "No" when someone touches you and you don't like it?

_____Loudly_____

19. Who should you tell about a touch you don't like?

_____Someone you trust_____

20. Should you keep a secret about a touch if someone tells you to?

_____No_____

Appendix F

Role Play Scenarios

Understanding Good Touch

1. Show how you ask for a hug from mom
2. Show how you ask for a kiss from grandma
3. Show how you ask for a hug from your teacher - **Generalization**
4. Show how you ask for a high five from a classmate - **Generalization**

The Use of Manners

1. Researchers act out scenario:
   "I want that book" and pulls it from the others hand
   Can you show 'researcher' how she should have asked for the book?

Correct response: Say please; wait for response of saying after I finish reading, say ok with no behaviours.

2. Researchers act out scenario:
   "Here is your hat to put on before you go outside" other researcher pulls hat from hands and throws it on the floor saying "I hate that hat! I'm not wearing it!"
   Can you show 'researcher' what she should do instead?

Correct response: No thank you, I don't want that hat, wait for response of offering different hat, say thank you.

3. Researchers act out scenario: **Generalization**
   "I don't want to watch that TV show" and pulls the remote away from other researcher.
   Can you show 'researcher' what she should do instead?

Correct response: Can we please watch a different show? Wait for response of 'after this one is over', say ok with no behaviours.

4. Researchers act out scenario: **Generalization**
   "Give me that cookie!" and researcher grabs for cookie.
   Can you show 'researcher' how she should have asked for the cookie?

Correct response: Say please; wait for response of giving the cookie, say thank you.

Self Protection

1. Researchers act out scenario:
   One hits the other on the shoulder
   Can you show 'researcher' what she should do after she got hit?

Correct response: Say no, leave and tell an adult

2. Researchers act out scenario:
   Researcher gives other researcher an exaggerated hug. Other researcher makes a face showing she does not like the hug.

Can you show 'researcher' what she should do since she didn't like the hug?
Correct response: Say no, leave and tell an adult

3. Researchers act out scenario: **Generalization**
   One researcher kicks the other
   Can you show 'researcher' what she should do after she got kicked?
Correct response: Say no, leave, tell an adult

4. Researchers act out scenario: **Generalization**
   One researcher tries to kiss the other. The second researcher makes a face showing she doesn't like it.
   Can you show 'researcher' what she should do since she didn't want the kiss?
Correct response: Say no, leave and tell an adult.

Appendix G

Abilities Questionnaire

Please rate your child's abilities on the following questions from 1-5. Please circle your response.

1. How often does your child respond appropriately when you say no to something they want?

1	2	3	4	5
Never		Sometimes		Always

2. How often does your child respond appropriately when you ask them to do something they don't want to do?

1	2	3	4	5
Never		Sometimes		Always

3. How often does your child use their manners without being told?

1	2	3	4	5
Never		Sometimes		Always

4. How often does your child ask before giving someone a hug of kiss?

1	2	3	4	5
Never		Sometimes		Always

5. How well does your child know their own body parts?

1	2	3	4	5
Not well		Somewhat		Very well

6. How well does your child respect the personal boundaries of others?

1	2	3	4	5
Not well		Somewhat		Very well

7. How well do you think your child could protect themselves against sexual abuse?

1	2	3	4	5
Not well		Somewhat		Very well

8. How assertive do you feel your child would be in a situation where they don't feel safe?

1	2	3	4	5
Not Assertive		Somewhat		Very Assertive

9. How well does your child alter their affectionateness depending on the person? I.e. family vs. stranger.

1	2	3	4	5
Not at all		Somewhat		Very well

10. How confident are you that your child would tell you about something that made them feel uncomfortable or not safe?

1	2	3	4	5
Not Confident		Somewhat		Very Confident

Appendix H

Satisfaction Questionnaire

Please rate your answers to each question on a scale of 1-5, with one being not satisfied and five being very satisfied. Please circle your response.

1. How satisfied were you with what your child learned about protecting themselves?

1	2	3	4	5
Not Satisfied		Somewhat Satisfied		Very Satisfied

2. How satisfied were you with the skills taught in this game?

1	2	3	4	5
Not Satisfied		Somewhat Satisfied		Very Satisfied

3. How satisfied were you with your overall experience with the game and books?

1	2	3	4	5
Not Satisfied		Somewhat Satisfied		Very Satisfied

4. How much did your child enjoy the game and the books?

1	2	3	4	5
Not at All		Somewhat		A lot

5. Were there any negative impacts on your child that came from the books or the game?

1	2	3	4	5
No		Some		Yes

Please share any other comments you have about your experience with this program:

_____

_____

_____

_____